PROCRASTINATION AS A
PREDICTOR OF JOB PERFORMANCE

THESIS

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Abstract

It is generally accepted that everyone puts off or delays doing tasks to some extent; however, little is known about how different styles affect job performance. Individual differences in goal orientation (tendency to set goals and objectives), conscientiousness (thoroughness and carefulness in performing a task), autonomy (freedom, independence, and discretion in scheduling work), and temperament (manner of thinking, behaving, and reacting) may have an influence on how efficiently and effectively people prioritize their tasks (or avoid tasks), and thus have an effect on job performance.

This study examined the possible importance of procrastination in the workplace, and its effect on job performance. A measure of work-related procrastination was designed and a model was developed that proposed a linkage between individual differences and job performance. Two hypotheses were developed to test the implications of the model. The first hypothesis was supported – goal orientation, conscientiousness, autonomy, and temperament were significant predictors of work procrastination (task-avoidant behavior) in this study. The second hypothesis was not supported – results of analyses showed that procrastination was not a predictor of job performance in this study.

PROCRASTINATION AS A PREDICTOR OF JOB PERFORMANCE

I. Introduction

> Procrastination is not merely a curious human aberration, one of the many instances in which people failed to pursue their interest in an efficient and productive manner. It represents a dysfunction of human abilities that are important, if not essential, for coping with the myriad tasks, major or minor, that accumulate daily on our desks, in our memo books, or in our minds....When we procrastinate we waste time, miss opportunities, and do not live authentic lives...(Milgram, 1991, p. 149)

Everyone would agree that task-avoidant behavior, or procrastination, is a very common problem. When there is work to be done, there are a multitude of distractions available, such as a ballgame on television, a magazine with a fascinating article about the latest developments in bass fishing, a dog that really needs to be walked, or an old friend that needs a phone call.

Given that procrastination seems to be a problem for countless people, one might assume that behavioral scientists would have conducted a great deal of research on the topic. To the contrary, procrastination has been largely ignored by the scientific community except for the work of several educational psychologists (Ferrari, Johnson, & McCown, 1995). Ferrari, Johnson, and McCown (1995) provided some possible explanations for the lack of research. They proposed that procrastination is so common that scientists view the topic as 'silly' and not worthy of serious study. Burka and Yuen (1983) pointed out that punctual and efficient people often view procrastinators as being annoying and illogical. Assuming that behavioral-science researchers are most likely punctual and highly conscientious, the researchers might not have empathy for or be interested in people that cannot meet deadlines (Ferrari, Johnson, & McCown, 1995). Still another reason for the lack of procrastination research might be that people think procrastination is funny. For instance, numerous graduate students proffered themselves

as candidates for case studies in procrastination during the course of this study, laughing all the while.

Although the shelves of bookstores and libraries are filled with countless self-help books preaching the definitive 'gospel' of time-management techniques and secrets of highly successful people, there is little empirical research explaining procrastination's effect on job performance. Even case studies presented by highly respected psychologists and psychiatrists seldom attempt to explain procrastination's effect on job performance. Empirical research on procrastination's effect on job performance should not be delayed.

The Current Study

The United States Air Force (USAF) is shrinking and worker productivity is more important than ever. Today's military engagement scenario is much different from that expected less than five years ago. In the Cold-War era, the threats were thought to be very predictable. Our major potential adversary was the Warsaw Pact, and the potential warfighting scenarios had been evaluated for decades. The USAF knew what to expect in terms of personnel and aircraft requirements.

The current environment has changed considerably from the situation of a few years ago as a result of the collapse of the Warsaw Pact, followed by the dissolution of the Soviet Union. Today, several totally different geographic scenarios can be envisioned, ranging from the Middle East (Iran/Iraq/Kuwait), Haiti, Bosnia, Korea, Somalia, and many similar, less well-reported, potential areas of conflict. In a budget deficit and debt-conscious era, there is no question that past methods of aircraft maintenance and personnel management may become obsolete. Budget cuts and changing roles and missions cause turmoil within organizations. With fewer people to do the job, delays in performing tasks have serious repercussions.

This study is designed to help command- and base-level supervisors better understand how procrastination affects job performance. It is generally accepted that everyone puts off or delays doing tasks to some extent; however, little is known about how different styles affect job performance. For instance, aircraft maintenance technicians are required to perform a number of time-critical tasks during the course of normal operations, and the consequences of delays can be quite dramatic (i.e., late takeoffs, ground aborts, scheduling problems, and rushed maintenance actions). In wartime, delays can cause the loss of life, equipment, and possibly the battle itself.

The aircraft maintenance field entails a wide variety of tasks that must be performed expertly and in a timely manner. There are approximately 2,500 officers and 69,000 enlisted personnel performing aircraft and munitions maintenance in the USAF (AFM, 1996). If task avoidance is chronic in the work force, then successful accomplishment of USAF mission objectives may be in jeopardy.

Individual differences in goal orientation (tendency to set goals and objectives), conscientiousness (thoroughness and carefulness in performing a task), autonomy (freedom, independence, and discretion in scheduling work), and temperament (manner of thinking, behaving, and reacting) may have an influence on how efficiently and effectively people prioritize their tasks (or avoid tasks), and thus have an effect on job performance (see Fig. 1). This study will contribute to understanding and predicting the kind of behaviors that are essential for Total Quality Management (Quality Air Force) and other productivity/continuous improvement and performance measurement efforts.
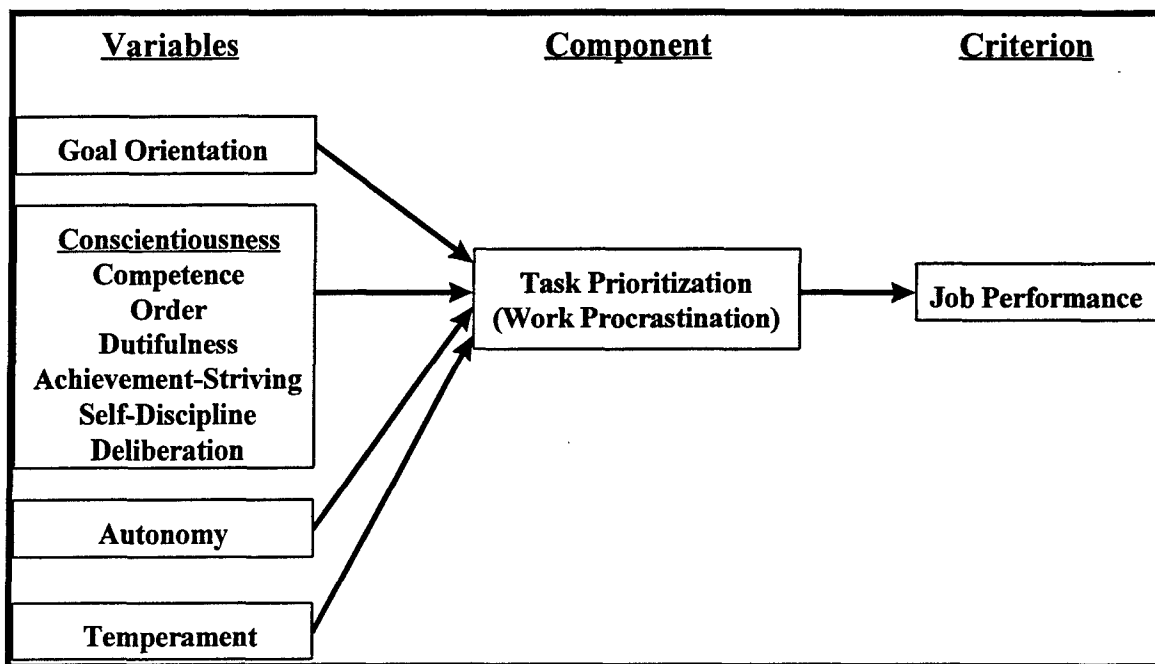
Figure 1-1. Individual Differences – Job Performance Linkage

Problem Statement

A need exists to study the possible importance of procrastination in the workplace, and its effect on job performance. Developing an accurate measure of work-related procrastination, based on previous measures of academic, decisional, neurotic, and life-routine procrastination, would be invaluable in predicting job performance. Determining the relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament would add to understanding procrastination's effect on job performance.

Objectives

The objectives of the current study were to:

1. Develop a reliable and valid measure of work-related procrastination.
2. Analyze the measurement's ability to predict procrastination's effect on job performance.
3. Analyze the possible relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament.
4. Provide command- and base-level supervisors with information they can use to enhance productivity.
5. Provide data and supporting documentation for current research in job performance being performed by the Air Force Institute of Technology (AFIT) Department of Graduate Management Systems.

Summary

Developing a reliable and valid measure of work-related procrastination, and determining procrastination's possible relationship with goal orientation, conscientiousness, autonomy, and temperament, will add to understanding procrastination's effect on job performance. This effort will provide command- and base-level supervisors with useful information, and valuable data and supporting documentation for ongoing studies of work styles and task prioritization. This thesis proposes research objectives and methodology which will provide valuable information for continuous improvement (Quality Air Force) and performance measurement efforts.

II. Literature Review

Chapter Overview

Procrastination has been defined as the act of putting off doing something until a later date, postponing or delaying needlessly (Soukhanouv, 1992). The procrastination phenomenon has been the subject of clinical and research literature in four areas: academic, decisional, neurotic, and life-routine (Milgram, Gehrman, & Keinan, 1992). Academic procrastination, postponing the completion of assignments and studying for exams, has received the most attention because of its potentially adverse effect on millions of students and the availability of students for research and treatment. Decisional, neurotic, and life-routine procrastination refer to repeated postponement of major life decisions and have been the topic of studies as well (Milgram, Sroloff, & Rosenbaum, 1988).

Each study of procrastination provides more pieces to the puzzle; however, only a few studies have examined the general nonstudent population (Ferrari, Johnson, & McCown, 1995). A need exists to study the possible importance of procrastination in the workplace and its effect on job performance. Developing an accurate measure of work-related procrastination, based on previous measures of academic, decisional, neurotic, and life-routine procrastination, would be invaluable in predicting job performance. Determining the relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament would add to understanding procrastination's effect on job performance.

The following is a review of the clinical and research literature pertaining to the definition and general characteristics, measurements, and specific studies of workplace procrastination.

Procrastination Literature

Definition and General Characteristics. The term *procrastination* translates directly from the Latin verb *procrastinare*, literally meaning to put off or postpone until another day (Desimone, 1993). The *Oxford English Dictionary* (OED, 1933) identifies the first known English usage of the word *procrastination* as occurring in 1548 in Edward Hall's *Chronicle: The Union of Two Noble and Illustrious Families of Lancestre and Yorke*. According to the OED, the term was commonly used by the early 1600s, but did not take on a negative connotation until the Industrial Revolution in the mid-18th century. Milgram (1991) noted that the current use of the term is only relevant in countries that possess advanced technology and stress time schedules.

There are various definitions of procrastination in clinical and research literature. Lowman (1993) pointed out that the most important distinction to make is between procrastination as a state phenomenon (delaying certain tasks, under specific circumstances) or as a trait phenomenon (crippling and pervasive life characteristic). Sroloff's (1983) empirical research supported the view that the trait phenomenon is more detrimental in the workplace.

In Lowman's (1993) book, *Counseling and Psychotherapy of Work Dysfunctions*, he defined the general characteristics of workplace or work-related procrastination as a person's persistent (and/or cyclical) pattern of avoiding the start or completion of work assignments that must be completed by a particular time or deadline, given the person is capable of doing the work. Lay (1986) added that procrastination involves deviations between what "ought" to be done and what is actually done to complete a task, and that the procrastinator often loses sight of time priorities and the relevance of present actions necessary to complete high-priority tasks.

Measures of Procrastination

Ferrari (1989) studied academic and dispositional measures, and the inventories demonstrated adequate reliability and acceptable stability as psychometric measures of procrastination. Although the measures designed to study academic procrastination may be reliable and stable, they do not appear to be suitable for studying nonstudent populations (Ferrari et al., 1995). Although academic measures of procrastination are concerned with the same construct, they are composed of items designed to measure academic behavior. These items may be inappropriate for people not in a school or university setting.

Ferrari, Johnson, and McCown (1995) identified several measures designed to study procrastination in adults which they labeled "measures of everyday procrastination." The measurements they identified were Lay's (1986) General Procrastination Scale, Mann's (1982) Decisional Procrastination Scale, McCown and Johnson's (1989) Adult Inventory of Procrastination, and the Tel-Aviv Procrastination Inventory (Sroloff, 1983).

In order to determine the relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, or temperament, measurements of goal orientation, conscientiousness, autonomy, and temperament need to be used in conjunction with a measurement of procrastination. Of the four "measures of everyday procrastination" identified by Ferrari, McCown, and Johnson (1995), the Adult Inventory of Procrastination (McCown & Johnson, 1989) was supported by numerous examples of use in diagnosing task-avoidant behavior in adult populations (Ferrari, 1993; Ferrari, 1992a; Ferrari, 1992b; McCown, Johnson, & Carise, 1991; McCown & Roberts, 1994).

Adult Inventory of Procrastination. McCown and Johnson's (1989) Adult Inventory of Procrastination is a 15-item scale that was designed to measure procrastination not limited to traditional-age college undergraduates. The instrument

requires subjects to rate the extent to which they agree or disagree with items, such as "I don't get things done on time" and "I find myself running out of time" on a 5-point Likert scale. There are not many validity studies, but high scores in past research have been related to extraversion, low impulsivity, depression, inefficient time management, delays in returning postage-paid surveys, and delays in making telephone bill payments (Ferrari, 1992b; Johnson & McCown, 1990; McCown & Roberts, 1994). Studies have also shown that high procrastination scores were related to less studying by third-year medical students, delays in filing yearly income tax forms (McCown & Johnson, 1989), and being raised within a dysfunctional household (McCown, Johnson, & Carise, 1991).

Factors Contributing to Procrastination

In addition to the Adult Inventory of Procrastination, valid and reliable measurements for goal orientation, conscientiousness, autonomy, and temperament must be used to determine the possible relationship with procrastination. Those instruments are the Goal Orientation Scale (Malouf, Schutte, Bauer, Mantelli, Pierce, Cordova, & Reed, 1990), the NEO Personality Inventory-Revised Conscientiousness Scale (Costa & McCrae, 1989), the Job Diagnostic Survey (Hackman & Oldham, 1990), and the Positive Affect/Negative Affect Schedule (Watson, Clark, & Tellegen, 1988).

Goal Orientation. The Goal Orientation Scale (Malouf et al., 1990) is a 15-item scale comprised of statements related to goal orientation. There are no studies measuring the relationship of goal orientation and task-avoidant behavior; however, there are numerous studies testifying to the validity and reliability of the Goal Orientation Scale (Locke, Shaw, Saari, & Latham, 1981; Schank & Abelson, 1977; Tubbs, 1986).

Burka and Yuen (1983) presented a discussion concerning procrastinators' difficulty in achieving goals. The authors proposed that procrastination interferes to such an extent that goals never get accomplished, or goals are attained only after undue agony.

Burka and Yuen (1983) also discussed the problems procrastinators have with setting goals. The goals set by procrastinators tend to be ambiguous, such as "I've got to get some work done today," or overly ambitious, such as "I want to be president of my own company someday" (Burka and Yuen, 1983).

Mento, Steel, and Karren (1987) performed a meta-analytic study of the effects of Locke's goal-setting theory on task performance. Locke's (1968) goal-setting theory postulated that setting clear/specific goals and difficult/challenging goals leads to a higher level of task performance. Latham and Yukl (1976) performed a review of goal orientation literature, specifically in business operations, in which they found strong support for goal specificity and difficulty leading to improved productivity; however, the authors could not find enough data to support goal feedback or participation as factors leading to improved productivity. Mento, Steel, and Karren's (1987) meta-analytic study resulted in strong support for goal specificity, difficulty, and feedback, and weak support for participation. The authors estimated that by setting difficult goals, productivity could be increased by 11.6%, by setting specific goals, productivity could be increased by 8.9%, and participation in the goal-setting process could increase productivity by 4% (Mento, Steel, & Karren, 1987). The authors proposed that a 17% gain in productivity could be achieved by combining goal specificity, difficulty, and feedback.

Conscientiousness. The NEO Personality Inventory-Revised Conscientiousness Scale (Costa & McCrae, 1989) is a 240-item scale used to measure neuroticism, extraversion, openness, agreeableness, and conscientiousness – the Big Five personality structure. The six conscientiousness facets (48 items) are most pertinent when determining the possible relationship with procrastination. The facets include competence, order, dutifulness, achievement-striving, self-discipline, and deliberation. Johnson and Bloom (1983) found the conscientiousness factor to be the major factor accounting for variance in procrastination scores. A number of studies support the

validity and reliability of this instrument in measuring conscientiousness (e.g., Costa & McCrae, 1988; Costa, McCrae, & Dye, 1991).

Barrick, Mount, and Strauss (1993) assessed the relationship of conscientiousness to job performance through mediating motivational variables (the effects of goal setting). The authors process model showed that sales representatives high in conscientiousness were more likely to set goals and be committed to goals, resulting in a greater sales volume and higher supervisory ratings of job performance. Reviews performed by Barrick and Mount (1991) and Hough, Eaton, Dunnette, Kamp, and McCloy (1990) have demonstrated that conscientiousness is a valid predictor for a variety of civilian and military occupational groups using various job-related criteria.

Autonomy. Hackman and Oldham's (1980) Job Diagnostic Survey is a 21-item scale used to measure employees' perceptions of seven job characteristics: skill variety, task identity, task significance, autonomy, feedback from the job itself, feedback from agents, and dealing with others. Only the three items used to measure autonomy are pertinent when determining the possible relationship with procrastination. There are no studies measuring the relationship of autonomy and task-avoidant behavior; however, there are numerous studies testifying to the validity and reliability of the measurement (e.g., Cook, Hepworth, Wall, & Warr, 1981; Fried, 1991; Fried & Ferris, 1986; Hackman & Oldham, 1975; Idaszak & Drasgow, 1987; Oldham, 1976).

Burka and Yuen (1983) proposed that procrastination may be a proclamation of a person's independence. The authors' main point was that people used procrastination to resist domination, thus preserving a sense of individuality. The authors presented a model of self-worth as follows: Self-worth = Ability (to be autonomous, defy control) = Performance (on worker's terms, via procrastination) (Burka & Yuen, 1983). In Burka and Yuen's (1983) model, ability refers to how well a person can resist control or restriction of autonomy. Another of the authors' propositions was that the need for

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autonomy might become an overriding theme in a person's life, resulting in a person becoming unable to make decisions or commitments. Burka and Yuen (1983) explained that committing to a relationship, putting words down on paper, or making a business decision would entail that a person make their interests known. Procrastinators fearing a loss of autonomy would not want to expose their wants, thoughts, or feelings, because that would leave them vulnerable to control by others.

Temperament. Watson, Clark, and Tellegen (1988) developed the 10-item Positive Affect (PA) and Negative Affect (NA) scales, combining them into the Positive and Negative Affect Schedule (PANAS). The factorial and external evidence of convergent and discriminant validity indicate the scales provide reliable, precise, and largely independent measures of positive affect and negative affect, regardless of the subject population studied or the timeframe and response format used (Watson, Clark, & Tellegen, 1988).

The Adult Inventory of Procrastination, in conjunction with the Goal Orientation Scale, NEO Personality Inventory, Job Diagnostic Survey, and PANAS may be useful in determining the possible relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament.

Workplace Procrastination Research

Ferrari, Johnson, and McCown (1995) summarized existing research perspectives in which they described a variety of psychoanalytic and psychodynamic theories concerning task-avoidant behavior. They presented examples of past procrastination research in the behavioral tradition, cognitive and cognitive-behavioral theories, and temperamental and personological explanations. The temperamental and personological explanations of procrastination included achievement motivation, intelligence and ability, impulsivity and extraversion, conscientiousness, and capacity for accurate time

perception. Ferrari, Johnson, and McCown (1995) pointed out that most studies deal with academic procrastination; however, they did locate a few that evaluated workplace procrastination. Of the few studies of this type that they examined, very few evaluated the relationship between procrastination and goal orientation, conscientiousness, autonomy, or temperament.

Procrastination's relationship with goal orientation, conscientiousness, autonomy, or temperament could help in predicting job performance. Malouf et al. (1990) performed a study of the tendency to be goal oriented showing that setting goals is important in many endeavors. Schank and Abelson (1977) emphasized the importance of goals in everyday human behavior and that setting goals enhances performance on a wide variety of work tasks (Locke et al., 1981; Tubbs, 1986).

Johnson and Bloom's (1993) multiple regression analysis found conscientiousness to be the major factor accounting for variance in procrastination scores. They characterized procrastinators as lacking self-discipline, dutifulness, and order. They suggested that each of these was detrimental in the workplace.

As for autonomy (freedom, independence, and discretion in scheduling work and determining procedures) and temperament (manner of thinking, behaving, and reacting), no studies have been performed on the relationship of these characteristics and procrastination.

The preponderance of the research on task-avoidant behavior is centered on academia, confirming the need for studies of work-related procrastination. Ellis and Knaus (1977) proposed in their book, *Overcoming Procrastination*, that delays in completing isolated tasks are a universal phenomenon, but the number of individuals for whom the problem is severe enough to interfere with work performance is unknown (Lowman, 1993).

Model Development

The literature review suggests a model can be derived that attempts to explain the link between individual differences and job performance. Figure 2-1 is a depiction of the link between the predictor variables (goal orientation, conscientiousness, autonomy, and temperament), the component, task prioritization (work procrastination), and the criterion, job performance.

<u>Variables</u>	<u>Component</u>	<u>Criterion</u>
Goal Orientation		
Conscientiousness **Competence** **Order** **Dutifulness** **Achievement-Striving** **Self-Discipline** **Deliberation**	**Task Prioritization** **(Work Procrastination)**	**Job Performance**
Autonomy		
Temperament		
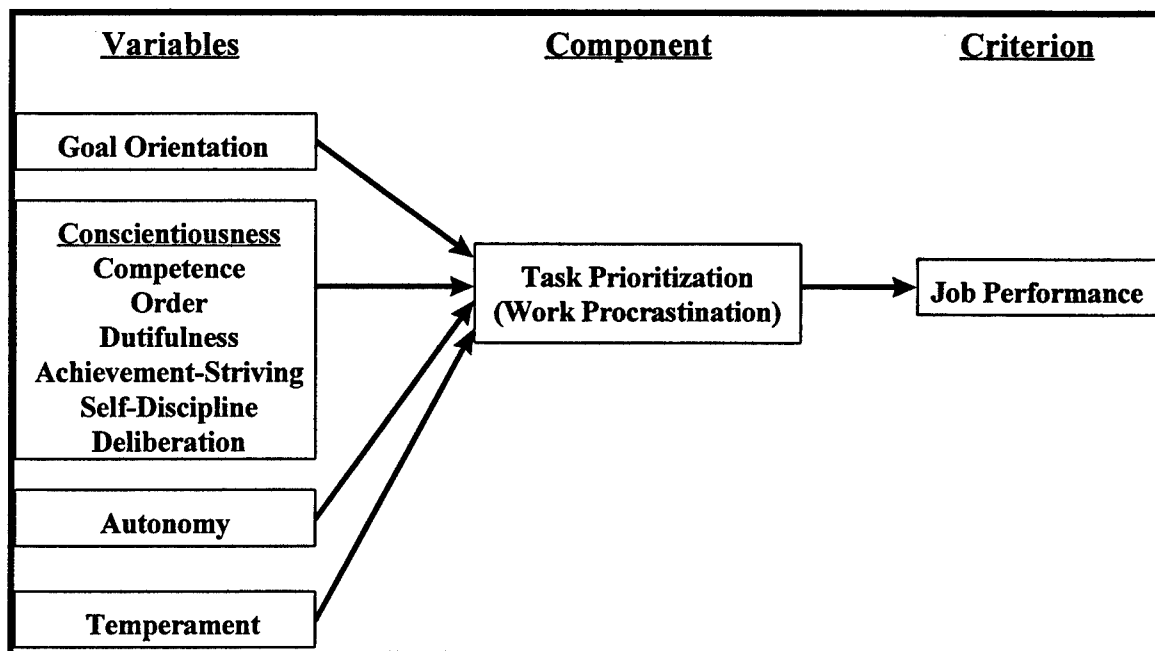
Figure 2-1. Individual Differences — Job Performance Linkage

Hypotheses

The model presented in Figure 2-1 suggests the following hypotheses:

<u>Hypothesis 1</u>. Goal orientation, conscientiousness, autonomy, and temperament will be significant predictors of the ability to prioritize tasks.

<u>Hypothesis 2</u>. The ability to prioritize tasks will be a significant predictor of job performance.

Summary

The possible importance of task-avoidant behavior in the workplace and its effect on job performance is supported by few studies. Given that most of the literature pertains to procrastination in academia, studies of behavior in the workplace are necessary for a deeper understanding of the phenomenon.

Defining task-avoidant behavior as a state or trait phenomenon is an important step in determining procrastination's effect on job performance. Defining the behavior helps in determining whether the problem is endemic (a one-time occurrence) or epidemic in the organization.

Developing an accurate measure of work-related procrastination, based on previous measures of academic, decisional, neurotic, and life-routine procrastination, would be invaluable in predicting job performance. Using the Adult Inventory of Procrastination, in conjunction with the Goal Orientation Scale, NEO Personality Inventory, Job Diagnostic Survey, and PANAS should help in determining the relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament. Determining this relationship would add to understanding procrastination's effect on job performance.

III. Method

Chapter Overview

This chapter presents the methodology used during the current study. The chapter begins with a discussion of the subjects of the current study, followed by a discussion of the instruments used during the current study. The chapter proceeds with a discussion of the procedure used to conduct the study and ends with a discussion of the methods used to analyze the data.

Sample and Setting

Subjects for this study were military personnel assigned to a large USAF aircraft maintenance squadron located in the Southeastern US. This squadron was responsible for aerospace ground equipment, fabrication (including structural repair, corrosion control, metals technology, survival equipment, and non-destructive inspection), avionics,
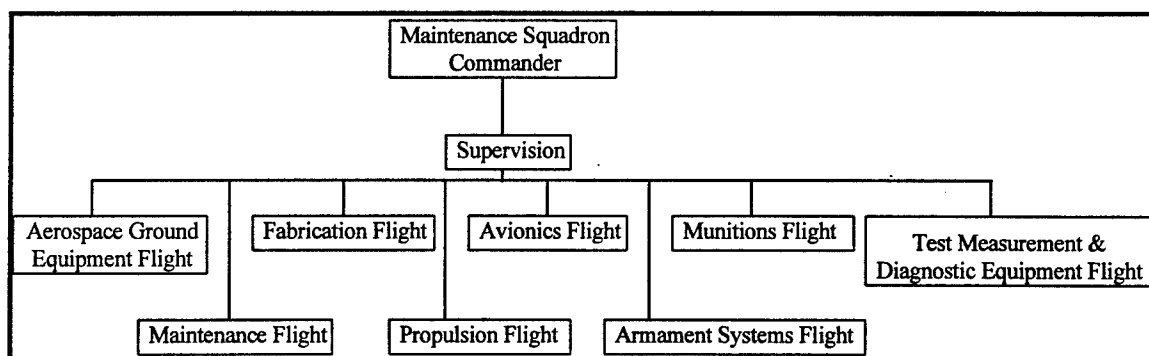
Figure 3-1. Organization Chart

munitions, test measurement and diagnostic equipment (the Precision Measurement Equipment Laboratory), maintenance (including aero-repair and wheel/tire), propulsion, and armament systems support of F-15 aircraft (see the organization chart, Fig. 1). Basically, the maintenance squadron was responsible for all off-equipment aircraft maintenance to include inspection and repair of aircraft systems.

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Participation was voluntary. A total of 263 people participated in the employee survey out of 350 surveys administered (75% response rate), and 75 people participated in the supervisor survey out of 100 surveys administered (75% response rate).

Employees. Based upon the responses to the background information section of the employee survey (see Appendix A), the typical employee was between 21 and 30 years old (56%), white (77%), male (91%), and had some college or an Associate's degree (67%). A total of 8 officers completed the employee survey, with 6 having the rank of O-1/2 (second or first lieutenant) and 2 having the rank of O-2 (captain). The majority of the sample was comprised of enlisted personnel, predominantly having the rank of E-3/4 (46 % were airmen first class or senior airmen) or E-5/6 (32% were staff sergeants or technical sergeants). Appendix D depicts the exact percentages of each demographic category.

Supervisors. Based upon the responses to the background information section of the supervisor survey (see Appendix A), the typical supervisor was between 31 and 40 years old (74%), white (83%), male (93%), and had some college or an Associate's degree (76%). A total of 9 officers completed the supervisor survey, with 5 having the rank of O-1/2 (second or first lieutenant), 2 having the rank of O-2 (captain), and 2 having the rank of O-3/4 (major or lieutenant colonel). The majority of the sample was comprised of enlisted personnel, predominantly having the rank of E-5/6 (53% were staff sergeants or technical sergeants) or E-7/8 (42% were master sergeants or senior master sergeants). Appendix E depicts the exact percentages of each demographic category.

Instruments

The first instrument used in this study was a compilation of the following scales: Adult Inventory of Procrastination, NEO Personality Inventory-Revised, Job Diagnostic Survey, Goal Orientation Scale, and unique items designed specifically for this study (designated as the Work Procrastination Scale). The second instrument was used to obtain supervisor's ratings of subjects' job performance. Each instrument also had a section used to obtain demographic information and a section used to determine positive or negative affect (PANAS).

Employee Survey. The instrument used to survey employees was a compilation of the following scales: Adult Inventory of Procrastination, NEO Personality Inventory-Revised, Job Diagnostic Survey, Goal Orientation Scale, and unique items designed specifically for this study (designated as the Work Procrastination Scale).

Adult Inventory of Procrastination. The Adult Inventory of Procrastination (McCown & Johnson, 1989) is a 15-item scale that was designed to measure procrastination not limited to traditional-age college undergraduates. Subjects used a 5-point Likert scale to rate the extent to which they disagreed or agreed with each item, such as "I don't get things done on time" and "I find myself running out of time." Seven of the items were reverse-scored and the ratings were summed for a single-scale score. High total scores reflected a high tendency toward diligence. McCown and Johnson (1989) reported an internal reliability of .79 and retest reliability (6 month) of .71. There has not been much validity research, but high scores in past research have been related to extraversion, low impulsivity, depression, inefficient time management, delays in returning postage-paid surveys, and delays in making telephone bill payments (Ferrari, 1992b; Johnson & McCown, 1990; McCown & Johnson, 1989). Studies have also shown that high procrastination scores were related to less studying by third-year medical students, delays in filing yearly income tax forms (McCown & Johnson, 1989),

and being raised within a dysfunctional household (McCown, Johnson, & Carise, 1991).

The fifteen items used in this study are listed in Table 3-1.

Table 3-1. Adult Inventory of Procrastination
10. I am prompt and on time for most appointments.*
12. I don't get things done on time.
18. I get important things done with time to spare.*
22. I find myself running out of time.
25. I am more punctual than most people I know.*
30. I lay out my clothes the night before I have an appointment so I won't be late.*
35. I find myself running later than I would like to be.
47. Putting things off till the last minute has cost me money in the past year.
60. I pay my bills on time.*
65. If someone were teaching a course on how to get things done on time, I would attend.
70. My friends and family think I wait until the last minute.
73. I do routine maintenance (e.g., changing the car's oil) on things I own as often as I should.*
87. I am not very good at meeting deadlines.
90. I schedule doctor's appointments when I am supposed to without delay.*
93. When I have to be somewhere at a certain time, my friends expect me to run a bit late.
NOTE: Items with an asterisk (*) are reverse-scored.

NEO Personality Inventory. The NEO Personality Inventory-Revised

(Costa & McCrae, 1992) is a 240-item scale used to measure neuroticism, extraversion,

openness, agreeableness, and conscientiousness. Only the six conscientiousness facets

(48 items) were used in the current study. The conscientiousness facets measured with

this instrument were competence, order, dutifulness, achievement striving, self-discipline,

and deliberation. Subjects rated the extent to which they disagreed or agreed (5-point

Likert scale) with each item, such as "I pride myself on my sound judgement" and "I

think things through before coming to a decision." Twenty of the items were reverse-

scored, and the ratings were summed for each facet and for a single-scale score. Costa,

McCrae, and Dye (1991) reported an internal reliability of .67 for competence, .66 for

order, .62 for dutifulness, .67 for achievement striving, .75 for self-discipline, and .71 for

deliberation. Retest reliability (3 months) for the overall conscientiousness scale was .83.

One validity study (Johnson & Bloom, 1993) found the factor of conscientiousness to be

the major factor accounting for variance in procrastination scores. The forty-eight items used in this study could not be listed because this instrument is copyrighted.

Job Diagnostic Survey. The Job Diagnostic Survey (Hackman & Oldham, 1980) is a 21-item scale used to measure employees' perceptions of seven principal job characteristics: skill variety, task identity, task significance, autonomy, feedback from the job itself, feedback from agents, and dealing with others. Only the three items measuring autonomy were used for the current study. For the first item, respondents indicated directly on a five-point continuum the amount of autonomy they perceived to be present in their job. For the other items, respondents answered in terms of the accuracy of two statements about features of their job. A mean score was taken across the three items. One of the items was reverse-scored. The reported internal reliability of the autonomy scale was .66 (Hackman & Oldham, 1975). Fried and Ferris (1987) performed a validity study of the Job Characteristics Model (review and meta-analysis), and reported a reliability of .69 for the autonomy variable. Fried (1991) reported a reliability of .82 for the autonomy variable in a meta-analytic comparison of the Job Diagnostic Survey and the Job Characteristics Inventory (Sims, Szilaryi, & Keller, 1976). The three items used to measure autonomy are listed in Table 3-2.

Table 3-2. Job Diagnostic Survey
41. My job denies me any chance to use my personal initiative or judgment in carrying out the work.*
95. My job gives me considerable opportunity for independence and freedom in how I do the work.
112. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?
1----------------------2--------------------3-------------------------4--------------------5
Very little; the job gives me almost no personal "say" about how and when the work is done. / Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work. / Very much; the job gives me almost complete responsibility for deciding how and when the work is done.
NOTE: Items with an asterisk (*) are reverse-scored.

Goal Orientation Scale. The Goal Orientation Scale (Malouf et al, 1990) is a 15-item scale comprised of statements related to goal orientation (i.e., whether the individual is or is not goal-oriented). Respondents rated (5-point Likert scale) the extent to which they agreed or disagreed with items such as, "I often think about my job or career goals" and "I develop a plan for all important goals." Items pertaining to a lack of goal orientation were reverse-scored. Malouf et al. (1990) reported a test-retest reliability of .82 for this scale. The fifteen items used in the current study are listed in Table 3-3.

Table 3-3. Goal Orientation Scale
13. I rarely think about what I will be doing a year from now.*
19. I never or almost never write down my long-range goals.*
23. I often think about my job or career goals.
42. I develop a plan for all important goals.
46. I view setting goals as a waste of time for me.*
67. I often set long-range goals.
79. I see planning for over a year ahead as pointless for me.*
83. I usually plan vacations long in advance.
85. I think about long-term consequences before I make big decisions.
88. I often plan for the future.
92. I never or almost never make a written plan for reaching a goal.*
94. I avoid setting goals for myself.*
98. I spend a substantial amount of time planning how to reach my goals.
99. I often start working on projects at the last minute.*
102. I am goal oriented.
NOTE: Items with an asterisk (*) are reverse-scored.

Work Procrastination Scale. This survey contained an exploratory twenty-two item scale measuring procrastination in the workplace. Respondents rated (5-point Likert scale) the extent to which they agreed or disagreed with items, such as "Turning in work ahead of schedule just gives your boss more time to ask for changes" and "It is more important to produce quality work than to work quickly." The twenty-two items used in this study are listed in Table 3-4.

Table 3-4. Work Procrastination Scale
20. There is no point in completing a task before it is required.
24. Work often takes longer than it should.
31. Turning in work ahead of schedule just gives my boss more time to ask for changes.
34. Schedules are a management tool, but that is all.
37. I tend to put off doing assignments that I regard as unpleasant.
43. If I don't do the work, someone else will.
48. A lot of problems will go away even if I do nothing.
61. Everyone turns work in late occasionally.
63. I'd rather not start on a task until I have all the information.
66. Most deadlines are arbitrary.
68. Many of the tasks I am assigned are unnecessary.
78. When it comes to my job, my philosophy is "Never do today what you can put off till tomorrow."
89. People are always badgering me to finish work.
91. Sometimes I don't have the resources needed to complete assigned tasks.
97. If I am patient, many problems will take care of themselves.
100. The faster I work, the more work they give me.
101. Tasks often turn out to be more difficult than they seem at first.
103. It is more important to produce quality work than to work quickly.
105. The amount of time allowed for tasks is often unrealistic.
108. No one really cares if work is late.
109. I don't control my own time.
111. Other people sometimes keep me from getting things done on time.

Supervisor Survey. Supervisory performance ratings were obtained from at least one, and in most cases two, supervisors of each employee. Supervisors provided an assessment of the number of months they observed the employee. They then rated (5-point Likert scale) the employee on fifteen performance dimensions, such as "While performing his or her job, how likely is it that this person would cooperate with others effectively?" and "While performing his or her job, how likely is it that this person would demonstrate expertise on the job?" Response options ranged between "Not At All Likely" and "Exceptionally Likely." Three items queried the supervisors on how qualified they were to judge their subordinates' performance level, how confident supervisors were in their ratings, and how relevant the fifteen performance items were to subordinates' jobs. A sample of this survey is provided in Appendix B, and the fifteen performance dimensions are listed in Table 3-5.

Table 3-5. Supervisor Survey
1. While performing his or her job, how likely is it that this person would persist in overcoming obstacles to complete the task?
2. While performing his or her job, how likely is it that this person would cooperate with others effectively?
3. While performing his or her job, how likely is it that this person would operate equipment effectively?
4. While performing his or her job, how likely is it that this person would pay close attention to important details?
5. While performing his or her job, how likely is it that this person would offer to help others with their work?
6. While performing his or her job, how likely is it that this person would perform job tasks effectively?
7. While performing his or her job, how likely is it that this person would take the initiative to solve a work problem?
8. While performing his or her job, how likely is it that this person would support a co-worker with a problem?
9. While performing his or her job, how likely is it that this person would demonstrate expertise on the job?
10. Compared with unit performance standards, this person performs _____ .
11. Compared with others of the same rank, how well does this person perform his or her job?
12. Compared with other members of the unit, how much does this person contribute to unit effectiveness?
13. If the opportunity arose, how likely is it that you would choose this person for a professional military education course?
14. If the opportunity arose, how likely is it that you would help this person move to a job that would help his or her career?
15. If the opportunity arose, how likely is it that you would recommend this person for early promotion?
16. Based on your personal knowledge of this person's behavior at work, how qualified do you feel you are you to judge his or her performance level?
17. How confident are you that your ratings accurately reflect this person's performance?
18. Overall, how relevant are the items in column 1-15 for this person's job?

Affective Measures. The temperament of each participant (both employees and supervisors) was measured with the Positive Affect/Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988). The PANAS instrument is a mood questionnaire comprised of twenty of the sixty descriptors initially used by Zevon and Tellegen (1982). Respondents rated (5-point Likert scale) the extent to which they had experienced each mood state during the past year. Mood states consisted of positive affect (PA) descriptors, such as "Excited" and "Proud," and negative affect (NA) descriptors, such as "Upset" and "Scared." Response options ranged from "Very Slightly or Not at All" (coded 1) to "Extremely" (coded 5). Clark and Watson (1986) and Watson (1988) used

the twenty PANAS descriptors without the additional forty terms and obtained nearly identical results. Watson, Clark, and Tellegen (1988) reported reliabilities of .86 (PA scale) and .84 (NA scale).

A sample of the PANAS used in each instrument is provided in Appendix C, and the ten PA and ten NA descriptors are listed in Table 3-6.

Table 3-6. PANAS	
Positive Affect	**Negative Affect**
Interested	Distressed
Excited	Upset
Strong	Guilty
Enthusiastic	Scared
Proud	Hostile
Alert	Irritable
Inspired	Ashamed
Determined	Nervous
Attentive	Jittery
Active	Afraid

Demographic Data. The employee survey and supervisor survey each contained nine questions that gathered data on the biographical backgrounds of each participant. The questions and response options were the same for each survey. A sample of the background information questions is provided in Appendix A.

Procedure

This was a cross-sectional study, performed once and representing one point in time (Cooper & Emory, 1995). Initially, a pilot test was performed to detect weaknesses in the research design and instrument and gather data for selection of the probability sample (Cooper & Emory, 1995). The instrument was administered, following the procedures outlined below, to a small sample of graduate students ($n = 21$). They

provided comments and suggestions for improvement, which led to some refinement of the instrument.

The instruments for the pilot test and primary study were administered and controlled by the researcher, with students completing the instrument within the same room as the researcher for the pilot study, and military employees and supervisors completing the survey within the locale (same work area) of the researcher.

Analysis Method

Internal Consistency. Reliability analyses of each instrument were performed to determine the extent to which the pattern of responses to questions about procrastination, goal orientation, autonomy, conscientiousness, positive/negative affect, and performance correlated with other responses within the same category. The internal consistency (reliability) analysis for each scale is depicted in Appendix F; except for the Work Procrastination Scale, which is depicted in Table 4-1. The alpha for each scale is also listed in Table 3-7. All of the total scale scores exceed the alpha = .70 criteria recommended by Nunnally (1978); however, four of the facets of the NEO Personality Inventory have alphas less than .70 (i.e., competence, order, dutifulness, and deliberation). The results for these 8-item subscales are consistent with past research and the overall alpha (.87) is more than sufficient.

Table 3-7. Internal Consistency	
Scale	**Alpha**
Work Procrastination Scale	.80
Adult Inventory of Procrastination	.71
Goal Orientation Scale	.88
Job Diagnostic Survey (Autonomy)	.70
NEO Personality Inventory-Revised (Conscientiousness)	.87
Competence (C1)	.68
Order (C2)	.58
Dutifulness (C3)	.66
Achievement Striving (C4)	.72
Self-Discipline (C5)	.78
Deliberation (C6)	.65
Positive Affect (PA)	.92
Negative Affect (NA)	.86
Performance Evaluation (1)	.96
Interpersonal Dimension (1)	.84
Motivational Dimension (1)	.90
Task Dimension (1)	.88
Personnel Decisions Dimension (1)	.86
Overall Performance Dimension (1)	.91
Performance Evaluation (2)	.96
Interpersonal Dimension (2)	.82
Motivational Dimension (2)	.90
Task Dimension (2)	.87
Personnel Decisions Dimension (2)	.86
Overall Performance Dimension (2)	.93

Correlations. The Pearson correlation coefficient (r) was used to measure the strength of the relationship between the data obtained with each individual instrument and the supervisor performance evaluations. The results of the analyses are depicted in Chapter 4.

Stepwise Regression Analysis. Stepwise regression analysis was used to test the hypothetical model illustrated in Figure 1-1. The ability of the variables (goal orientation, conscientiousness, autonomy, and temperament) to predict work procrastination was analyzed, as was the ability of procrastination and the predictor variables to predict the job performance criterion.

IV. Results

Chapter Overview

This chapter presents the results from the statistical analyses performed to evaluate relationships among the instruments used in the current study. First, descriptive statistics, reliability analyses, and intercorrelation matrices for the Work Procrastination Scale and other instruments are presented. Second, the results of correlational and regression analyses are presented.

Basic Statistics

<u>Descriptive Statistics</u>. Table 4-1 contains descriptive statistics for the Work Procrastination Scale. The mean score for the Work Procrastination scale was 50.88, with a standard deviation of 8.46. The scores ranged from 25.00 to 86.00 ($n = 263$). Table 4-2 contains descriptive statistics from all other instruments used in the current study. Table 4-3 contains descriptive statistics for the performance evaluations. Descriptive statistics for each item in each instrument are presented in Appendix H.

Table 4-1. Descriptive Statistics – Work Procrastination Scale					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 20)	1.75	.77	1	5	263
Item 2 (Survey Question 24)	2.71	1.03	1	5	263
Item 3 (Survey Question 31)	2.74	1.03	1	5	263
Item 4 (Survey Question 34)	2.62	.95	1	5	263
Item 5 (Survey Question 37)	2.83	1.06	1	5	263
Item 6 (Survey Question 43)	2.34	1.02	1	5	263
Item 7 (Survey Question 48)	2.03	.83	1	5	263
Item 8 (Survey Question 61)	3.21	1.04	1	5	263
Item 9 (Survey Question 63)	3.81	.80	1	5	263
Item 10 (Survey Question 66)	2.58	.80	1	5	263
Item 11 (Survey Question 68)	2.60	.89	1	5	263
Item 12 (Survey Question 78)	1.92	.87	1	5	263
Item 13 (Survey Question 89)	1.86	.71	1	5	263
Item 14 (Survey Question 91)	3.24	.98	1	5	263
Item 15 (Survey Question 97)	2.69	.94	1	5	263
Item 16 (Survey Question 100)	3.00	.92	1	5	263
Item 17 (Survey Question 101)	2.77	.85	1	5	263
Item 18 (Survey Question 103)	4.14	.81	1	5	263
Item 19 (Survey Question 105)	2.75	.82	1	5	263
Item 20 (Survey Question 108)	1.94	.81	1	5	263
Item 21 (Survey Question 109)	2.32	.79	1	5	263
Item 22 (Survey Question 111)	3.00	.96	1	5	263
Work Procrastination Scale (Overall)	50.88	8.46	25.00	86.00	263

Table 4-2. Descriptive Statistics – Instruments					
Instrument	Mean	Std Dev	Minimum	Maximum	Valid N
Adult Inventory of Procrastination	33.48	6.33	19.00	66.00	263
Goal Orientation Scale	53.78	8.59	22.00	75.00	263
Job Diagnostic Survey (Autonomy)	10.40	2.55	3.00	15.00	263
Competence Facet (C1)	31.62	3.77	20.00	40.00	263
Order Facet (C2)	28.36	3.92	14.00	38.00	263
Dutifulness Facet (C3)	32.46	3.90	17.00	40.00	263
Achievement-Striving Facet (C4)	29.42	4.35	11.00	40.00	263
Self-Discipline Facet (C5)	31.34	4.03	18.00	40.00	263
Deliberation Facet (C6)	27.11	3.85	15.00	40.00	263
NEO Personality Inventory	180.32	18.46	107.00	231.00	263
Positive Affect (PA)	32.27	8.60	10.00	50.00	263
Negative Affect (NA)	22.24	7.47	10.00	42.00	263

Table 4-3. Descriptive Statistics – Performance Evaluations					
Instrument	Mean	Std Dev	Minimum	Maximum	Valid N
Performance Evaluation (1)	60.59	11.12	27.00	75.00	256
Interpersonal Dimension (1)	12.39	2.40	6.00	15.00	263
Motivational Dimension (1)	11.82	2.61	5.00	15.00	263
Task Dimension (1)	12.59	2.24	6.00	15.00	260
Personnel Decisions Dimension (1)	11.98	2.90	3.00	15.00	259
Overall Performance Dimension (1)	11.92	2.37	6.00	15.00	259
Performance Evaluation (2)	58.49	11.87	23.00	75.00	142
Interpersonal Dimension (2)	12.31	2.38	4.00	15.00	155
Motivational Dimension (2)	11.57	2.79	3.00	15.00	155
Task Dimension (2)	12.26	2.52	3.00	15.00	142
Personnel Decisions Dimension (2)	11.45	2.95	3.00	15.00	152
Overall Performance Dimension (2)	11.51	2.69	3.00	15.00	155
Average Performance Evaluation	59.30	9.98	25.00	75.00	135
Average Interpersonal Dimension	12.39	2.07	6.00	15.00	155
Average Motivational Dimension	11.80	2.41	5.00	15.00	155
Average Task Dimension	12.38	2.03	6.00	15.00	139
Average Personnel Decisions Dimension	11.79	2.40	3.00	15.00	148
Average Overall Performance Dimension	11.83	2.18	4.50	15.00	151

Reliability Analysis. Table 4-4 presents the results of a reliability analysis (i.e., internal consistency) of the Work Procrastination Scale. A final alpha of .81 was calculated for this scale after two items (item 9, survey question 63, and 18, survey question 103) were deleted to improve reliability. These items were deleted from the analysis because they had negative item-total correlations (item 9: $r = -.0701$, and item 18: $r = -.1742$). Reliability analyses for the other instruments used in the current study are presented in Appendix G.

Table 4-4. Reliability Analysis of the Work Procrastination Scale			
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 20)	49.1331	66.1463	.3789	.8009
Item 2 (Survey Question 24)	48.1711	66.0279	.2644	.8078
Item 3 (Survey Question 31)	48.1407	63.9534	.3945	.7998
Item 4 (Survey Question 34)	48.2586	65.2917	.3478	.8024
Item 5 (Survey Question 37)	48.0494	63.3067	.4199	.7983
Item 6 (Survey Question 43)	48.5399	65.3181	.3130	.8048
Item 7 (Survey Question 48)	48.8441	65.6054	.3866	.8004
Item 8 (Survey Question 61)	47.6692	63.4665	.4173	.7984
Item 10 (Survey Question 66)	48.3004	65.0201	.4516	.7973
Item 11 (Survey Question 68)	48.2814	63.8442	.4827	.7950
Item 12 (Survey Question 78)	48.9582	65.2769	.3873	.8002
Item 13 (Survey Question 89)	49.0190	64.9119	.5275	.7947
Item 14 (Survey Question 91)	47.6426	65.9863	.2844	.8063
Item 15 (Survey Question 97)	48.1901	67.8110	.1804	.8117
Item 16 (Survey Question 100)	47.8745	67.1483	.2328	.8086
Item 17 (Survey Question 101)	48.1103	64.8313	.4320	.7979
Item 19 (Survey Question 105)	48.1331	64.8410	.4503	.7972
Item 20 (Survey Question 108)	48.9430	65.8021	.3834	.8006
Item 21 (Survey Question 109)	48.5551	64.4311	.5042	.7948
Item 22 (Survey Question 111)	47.8745	64.4689	.3966	.7996
ALPHA = 0.8090			

Frequencies. Response frequencies for the Work Procrastination Scale are presented in Table 4-6. Respondents rated (5-point Likert scale) the extent to which they agreed or disagreed with the items listed in Table 4-5.

Table 4-5. Work Procrastination Scale
20. There is no point in completing a task before it is required.
24. Work often takes longer than it should.
31. Turning in work ahead of schedule just gives my boss more time to ask for changes.
34. Schedules are a management tool, but that is all.
37. I tend to put off doing assignments that I regard as unpleasant.
43. If I don't do the work, someone else will.
48. A lot of problems will go away even if I do nothing.
61. Everyone turns work in late occasionally.
63. I'd rather not start on a task until I have all the information.
66. Most deadlines are arbitrary.
68. Many of the tasks I am assigned are unnecessary.
78. When it comes to my job, my philosophy is "Never do today what you can put off till tomorrow."
89. People are always badgering me to finish work.
91. Sometimes I don't have the resources needed to complete assigned tasks.
97. If I am patient, many problems will take care of themselves.
100. The faster I work, the more work they give me.
101. Tasks often turn out to be more difficult than they seem at first.
103. It is more important to produce quality work than to work quickly.
105. The amount of time allowed for tasks is often unrealistic.
108. No one really cares if work is late.
109. I don't control my own time.
111. Other people sometimes keep me from getting things done on time.

The most frequent responses were: 47.7% disagreed with item 20; 39.4% disagreed with item 24; 37.9% sometimes agreed/sometimes disagreed with item 31; 36.7% disagreed with item 34; 30.3% disagreed with item 34; 42.4% disagreed with item 37; 52.3% disagreed with item 43; 39.4% agreed with item 61; 46.6% sometimes agreed/sometimes disagreed with item 66; 43.9% disagreed with item 68; 48.1% disagreed with item 78; 56.8% disagreed with item 89; 41.7% agreed with item 91; 40.2% disagreed with item 97; 42% sometimes agreed/sometimes disagreed with item 100; 42.4% sometimes agreed/sometimes disagreed with item 101; 47.3% sometimes

agreed/sometimes disagreed with item 105; 54.2% disagreed with item 108; 55.3% disagreed with item 109; and, 35.6% sometimes agreed/sometimes disagreed with item 111. Response frequencies for the other instruments used in the current study are presented in Appendix H.

Table 4-6. Response Frequencies – Work Procrastination Scale							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 20)	1	107	40.5	Item 12 (Survey Question 78)	1	88	33.3
	2	**126**	**47.7**		2	**127**	**48.1**
	3	23	8.7		3	33	12.5
	4	4	1.5		4	11	4.2
	5	3	1.1		5	4	1.5
Item 2 (Survey Question 24)	1	23	8.7	Item 13 (Survey Question 89)	1	79	29.9
	2	**104**	**39.4**		2	**150**	**56.8**
	3	78	29.5		3	27	10.2
	4	43	16.3		4	6	2.3
	5	15	5.7		5	1	.4
Item 3 (Survey Question 31)	1	27	10.2	Item 14 (Survey Question 91)	1	13	4.9
	2	84	31.8		2	50	18.9
	3	**100**	**37.9**		3	76	28.8
	4	35	13.3		4	**110**	**41.7**
	5	17	6.4		5	14	5.3
Item 4 (Survey Question 34)	1	27	10.2	Item 15 (Survey Question 97)	1	19	7.2
	2	**97**	**36.7**		2	**106**	**40.2**
	3	96	36.4		3	83	31.4
	4	35	13.3		4	48	18.2
	5	8	3.0		5	7	2.7
Item 5 (Survey Question 37)	1	27	10.2	Item 16 (Survey Question 100)	1	7	2.7
	2	**80**	**30.3**		2	73	27.7
	3	79	29.9		3	**111**	**42.0**
	4	65	24.6		4	56	21.2
	5	12	4.5		5	16	6.1
Item 6 (Survey Question 43)	1	53	20.1	Item 17 (Survey Question 101)	1	13	4.9
	2	**112**	**42.4**		2	89	33.7
	3	63	23.9		3	**112**	**42.4**
	4	26	9.8		4	44	16.7
	5	9	3.4		5	5	1.9
Item 7 (Survey Question 48)	1	66	25.0	Item 19 (Survey Question 105)	1	13	4.9
	2	**138**	**52.3**		2	86	32.6
	3	47	17.8		3	**125**	**47.3**
	4	8	3.0		4	33	12.5
	5	4	1.5		5	6	2.3
Item 8 (Survey Question 61)	1	21	8.0	Item 20 (Survey Question 108)	1	76	28.8
	2	41	15.5		2	**143**	**54.2**
	3	80	30.3		3	33	12.5
	4	**104**	**39.4**		4	7	2.7
	5	17	6.4		5	4	1.5
Item 10 (Survey Question 66)	1	23	8.7	Item 21 (Survey Question 109)	1	28	10.6
	2	92	34.8		2	**146**	**55.3**
	3	**123**	**46.6**		3	67	25.4
	4	23	8.7		4	20	7.6
	5	2	.8		5	2	.8
Item 11 (Survey Question 68)	1	18	6.8	Item 22 (Survey Question 111)	1	16	6.1
	2	**116**	**43.9**		2	64	24.2
	3	91	34.5		3	**94**	**35.6**
	4	30	11.4		4	81	30.7
	5	8	3.0		5	8	3.0

Bivariate Relationships. Table 4-7 presents an intercorrelation matrix for the instruments used in the current study. All of the instruments showed a significant correlation (either positive or negative) with one another except for the Job Diagnostic Survey and the Adult Inventory of Procrastination, the Goal Orientation Survey, Deliberation (C6) and Negative Affect (NA), and Negative Affect (NA) and Positive Affect (PA).

Table 4-8 highlights the relationships involving the Work Procrastination Scale. Work procrastination scores were significantly predicted by adult procrastination (r = .49) and negative affect (r = .35). Work procrastination was significantly negatively correlated with goal orientation (r = -.53), autonomy (r = -.23), competence (r = -.48), order (r = -.39), dutifulness (r = -.30), achievement-striving (r = -.42), self-discipline (r = -.56), deliberation (r = -.44), conscientiousness (r = -.57), and positive affect (r = -.30).

Table 4-9 presents the correlations involving the predictor set and job performance evaluations (by each of two evaluators and the average of the two). Autonomy was significantly correlated (r = .15) and negative affect was significantly negatively correlated (r = -.11) with ratings provided by evaluator 1. Adult procrastination (r = -.17), negative affect (r = -.17), autonomy (r = .22), order (r = .19), self-discipline (r = .15), and conscientiousness (r = .14) were significantly correlated with ratings from the second group of evaluators. Adult procrastination (r = -.16), negative affect (r = -.18), autonomy (r = .24), order (r = .16), self-discipline (r = .17), and conscientiousness (r = .17) were significantly correlated with the averaged performance ratings.

Table 4-7. Intercorrelation Matrix for the Instruments

Instrument	WPS	AIP	GOS	JDS	C1	C2	C3	C4	C5	C6	NEO	PA	NA
Work Procrastination Scale	******												
Adult Inventory of Procrastination	.4892**	******											
Goal Orientation Scale	-.5261**	-.4827**	******										
Job Diagnostic Survey (Autonomy)	-.2253**	-.0943	.0605	******									
Competence (C1)	-.4801**	-.5866**	.5504**	.1291*	******								
Order (C2)	-.3907**	-.5675**	.5060**	.1576*	.5114**	******							
Dutifulness (C3)	-.2949**	-.5532**	.4369**	.1264*	.5514**	.3788**	******						
Achievement-Striving (C4)	-.4213**	-.5479**	.7041**	.1785*	.7101**	.5524**	.5683**	******					
Self-Discipline (C5)	-.5586**	-.6648**	.5677**	.1838***	.7047**	.5340**	.6430**	.6622**	******				
Deliberation (C6)	-.4392**	-.4531**	.4639**	.0480	.4459**	.3510**	.3320**	.3838**	.4386**	******			
NEO PI-R (Conscientiousness)	-.5679**	-.7259**	.6987**	.1787*	.8435**	.7168**	.7479**	.8426**	.8589**	.6304**	******		
Positive Affect (PA)	-.3016**	-.1323*	.2957**	.2511**	.2213**	.2253**	.2157**	.3358**	.2535**	.1026*	.2945**	******	
Negative Affect (NA)	.3466**	.2710**	-.2690**	-.0960	-.2968**	.2669**	-.1404*	-.2342**	-.2634**	-.2686**	-.3156**	-.0044	******

NOTE: * p < .05 ** p < .001

Table 4-8. Predictors of Work Procrastination	
	Work Procrastination
Variable	**r**
Adult Procrastination	.4892**
Goal Orientation	-.5261**
Autonomy	-.2253**
Competence (C1)	-.4801**
Order (C2)	-.3907**
Dutifulness (C3)	-.2949**
Achievement-Striving (C4)	-.4713**
Self-Discipline (C5)	-.5586**
Deliberation (C6)	-.4392**
Conscientiousness	-.5679**
Positive Affect (PA)	-.3016**
Negative Affect (NA)	.3466**
NOTE: * p < .05 ** p < .001	

Table 4-9. Relationships Between Predictor Set and Job Performance Evaluations			
	Performance Evaluations		
	Evaluator 1	**Evaluator 2**	**Average Evaluation**
Variable	**r**		
Work Procrastination	-.0408	-.1046	-.1255
Adult Procrastination	-.0986	-.1724*	-.1553*
Goal Orientation	-.0209	.0105	.0140
Autonomy	.1449*	.2189*	.2442*
Competence (C1)	.0740	.1173	.1414
Order (C2)	.0838	.1885*	.1588*
Dutifulness (C3)	.0847	.1141	.1237
Achievement-Striving (C4)	.0584	.0163	.0610
Self-Discipline (C5)	.0914	.1469*	.1676*
Deliberation (C6)	.0821	.1038	.1371
Conscientiousness	.1023	.1424*	.1664*
Positive Affect (PA)	-.0220	-.0628	-.0995
Negative Affect (NA)	-.1104*	-.1734*	-.1806*
NOTE: * p < .05 ** p < .001			

Table 4-10 presents correlations between the predictor set and specific job performance dimensions (interpersonal, motivational, task, personnel decisions, and overall performance). Table 4-11 presents a similar relationship for selected dimensional combinations. Adult procrastination was significantly negatively correlated with the motivational ($r = -.15$), personnel decisions ($r = -.22$) and overall performance ($r = -.17$) dimensions. Autonomy was significantly correlated with the interpersonal ($r = .27$), motivational ($r = .32$), task ($r = .16$), personnel decisions ($r = .17$), and overall performance ($r = .33$) dimensions, as well as the combination of the interpersonal and task dimensions ($r = .20$) and task and motivational dimensions ($r = .22$). Competence was significantly correlated with the motivational ($r = .19$) and personnel decisions ($r = .18$) dimensions, as well as the combination of the task and motivational dimensions ($r = .15$). Order was significantly correlated with the task ($r = .16$) and personnel decisions ($r = .15$) dimensions, as well as the combination of the interpersonal and task dimensions ($r = .17$) and the task and motivational dimensions ($r = .17$). Dutifulness was significantly correlated with the overall performance dimension ($r = .14$). Self-discipline was significantly correlated with the motivational ($r = .20$), task ($r = .15$), personnel decisions ($r = .19$), and overall performance ($r = .18$) dimensions, as well as the combination of the interpersonal and task dimensions ($r = .14$) and the task and motivational dimensions ($r = .17$). Deliberation was significantly correlated with the personnel decisions ($r = .15$) and overall performance ($r = .17$) dimensions. Conscientiousness was significantly correlated with the motivational ($r = .18$), personnel decisions ($r = .20$), and overall performance ($r = .16$) dimensions, as well as the combination of the interpersonal and task dimensions ($r = .14$) and task and motivational dimensions ($r = .15$). Negative affect was significantly negatively correlated with the motivational ($r = -.19$), personnel decisions ($r = -.10$), and overall performance ($r = -.17$) dimensions, as well as the combination of the task and motivational dimensions ($r = -.15$).

4-11

Table 4-10. Predictor Set Relationships with Specific Job Performance Dimensions

| | Performance Dimensions | | | | |
| | Interpersonal | Motivational | Task | Personnel Decisions | Overall Performance |
Variable			r		
Work Procrastination	-.1084	-.1275	-.1079	-.1143	-.1310
Adult Procrastination	-.0888	-.1503*	-.1246	-.2224*	-.1655*
Goal Orientation	.0820	.0448	-.0187	.0807	.0073
Autonomy	.2667**	.3238**	.1555*	.1689*	.3322**
Competence (C1)	.1187	.1847*	.1139	.1759*	.1141
Order (C2)	.0979	.1198	.1574*	.1522*	.0698
Dutifulness (C3)	.0967	.1296	.0710	.1242	.1360*
Achievement-Striving (C4)	.0737	.0987	.0125	.1290	.0782
Self-Discipline (C5)	.1209	.1947*	.1501*	.1944*	.1796*
Deliberation (C6)	.1247	.1133	.0971	.1497*	.1691*
Conscientiousness	.1321	.1765*	.1246	.1961*	.1572*
Positive Affect (PA)	-.0394	-.0480	-.1028	-.1163	-.0494
Negative Affect (NA)	-.1131	-.1900*	-.0985	-.2532**	-.1646*

NOTE: * p < .05 ** p < .001

4-12

Table 4-11. Predictor Set Relationships with Selected Performance Dimension Combinations		
	Performance Dimensions	
	Interpersonal + Task	**Task + Motivational**
Variable	**r**	
Work Procrastination	-.1251	-.1293
Adult Procrastination	-.1185	-.1383
Goal Orientation	.0272	.0011
Autonomy	**.2012***	**.2219***
Competence (C1)	.1252	**.1499***
Order (C2)	**.1671***	**.1727***
Dutifulness (C3)	.0890	.0955
Achievement-Striving (C4)	.0366	.0392
Self-Discipline (C5)	**.1432***	**.1692***
Deliberation (C6)	.1235	.1104
Conscientiousness	**.1420***	**.1531***
Positive Affect (PA)	-.0726	-.0828
Negative Affect (NA)	-.1015	**-.1446***
NOTE: * p < .05 ** p < .001		

Regression Analyses

Stepwise regression analyses were performed to evaluate the ability of the predictor set (goal orientation, conscientiousness, autonomy, and positive/negative affect) to predict work procrastination and the performance criterion.

Predictors of Work Procrastination. Hypothesis 1 predicted that a worker's goal orientation, conscientiousness, autonomy, and temperament would be significant predictors of a worker's ability to prioritize tasks (i.e., work procrastination). Stepwise regression analysis was performed to determine which variables were significant predictors of work procrastination. Table 4-12 presents the results of this analysis.

Seven variables entered as significant predictors of work procrastination: conscientiousness ($\Delta R^2 = .35$, $p < .001$), dutifulness ($\Delta R^2 = .06$, $p < .001$), negative affect ($\Delta R^2 = .04$, $p < .01$), positive affect ($\Delta R^2 = .03$, $p < .01$), goal orientation ($\Delta R^2 = .02$, $p < .05$), autonomy ($\Delta R^2 = .02$, $p < .05$), and achievement-striving ($\Delta R^2 = .02$, $p < .05$). Collectively, these variables accounted for 54% of the variance in the task prioritization measure.

Table 4-12. Results of Stepwise Regression Analysis Predicting Work Procrastination			
Predictor	**β**	**R^2**	**ΔR^2**
Conscientiousness	-.73	.35	.35***
Dutifulness	.35	.41	.06***
Negative Affect	.24	.45	.04**
Positive Affect	-.13	.48	.03**
Goal Oriented	-.32	.50	.02*
Autonomy	-.17	.52	.02*
Achievement Striving	.30	.54	.02*
NOTE: *** p < .001 ** p < .01 * p < .05			

Predictors of Job Performance. Hypothesis 2 predicted that a worker's ability to effectively and efficiently prioritize tasks (work procrastination) would be a significant predictor of job performance. Stepwise regression analyses were performed to determine which variables would enter significantly as predictors of job performance. Table 4-13 presents the results of this analysis for each of the two groups of performance evaluators and the average of the two evaluations. Table 4-14 presents the results of the analysis of specific job performance dimensions.

Autonomy was the only variable that entered as a significant predictor of job performance. It entered significantly in each of the analyses show in Table 4-13. For the first set of evaluations, autonomy ($\Delta R^2 = .04$, p < .05) explained 4% of the variance in job performance. For the second set of evaluations, autonomy ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in job performance. For the average of the two groups of evaluations, autonomy ($\Delta R^2 = .06$, p < .01), explained 6% of the variance in job performance.

Autonomy, negative affect, and positive affect were the only predictor variables that entered as significant predictors of any of the job performance dimensions. For the interpersonal dimension, autonomy ($\Delta R^2 = .06$, p < .01) explained 6% of the variance in the job performance dimension. For the motivational dimension, autonomy ($\Delta R^2 = .08$, p < .001) and negative affect ($\Delta R^2 = .03$, p < .05) explained 11% of the variance in the job performance dimension. For the task dimension, autonomy ($\Delta R^2 = .03$, p < .05) and positive affect ($\Delta R^2 = .03$, p < .05) explained 6% of the variance in the job performance dimension. For the personnel decisions dimension, negative affect ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in the job performance dimension. For the overall performance dimension, autonomy ($\Delta R^2 = .08$, p < .001) explained 8% of the variance in the job performance dimension. For the combination of the interpersonal and task dimensions, autonomy ($\Delta R^2 = .04$, p < .05) explained 4% of the variance in the

combination of the two performance dimensions. For the combination of motivational and task dimensions, autonomy ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in the combination of the two performance dimensions.

Table 4-13. Results of Stepwise Regression Analysis Predicting Performance Ratings			
Job Performance (Evaluation Group 1)			
Predictor	**β**	**R^2**	**Δ R^2**
Autonomy	.19	.04	.04*
Job Performance (Evaluation Group 2)			
Predictor	**β**	**R^2**	**Δ R^2**
Autonomy	.23	.05	.05**
Job Performance (Average of Evaluation Group 1 & 2)			
Predictor	**β**	**R^2**	**Δ R^2**
Autonomy	.24	.06	.06**
NOTE: *** p < .001 ** p < .01 * p < .05			

Table 4-14. Results of Stepwise Regression Analysis Predicting Specific Job Performance Dimensions			
Job Performance – Interpersonal Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.24	.06	.06**
Job Performance – Motivational Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.27	.08	.08***
Negative Affect	-.18	.11	.03*
Job Performance – Task Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.20	.03	.03*
Positive Affect	-.17	.06	.03*
Job Performance – Personnel Decisions Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Negative Affect	-.23	.05	.05**
Job Performance – Overall Performance Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.29	.08	.08***
Job Performance – Interpersonal + Task Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.20	.04	.04*
Job Performance – Motivational + Task Dimension			
Predictor	**β**	**R^2**	**ΔR^2**
Autonomy	.22	.05	.05**
NOTE: *** $p < .001$ ** $p < .01$ * $p < .05$			

V. Findings and Conclusions

Chapter Overview

This chapter presents findings and conclusions based upon the achievement of the study's objectives, analysis of the proposed model, limitations of the current study, and recommendations for further research on work-related procrastination.

Achievement of Objectives

The objectives of the study were to:

1. Develop a reliable and valid measure of work-related procrastination.
2. Analyze the measurement's ability to predict procrastination's effect on job performance.
3. Analyze the possible relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament.
4. Provide command- and base-level supervisors with information they can use to enhance productivity.
5. Provide data and supporting documentation for current research in job performance being performed by the Air Force Institute of Technology (AFIT) Department of Graduate Management Systems.

Objective 1. The first objective of this study was to develop a reliable and valid measure of work-related procrastination. The Work Procrastination Scale appears to be a reliable measure of work procrastination. Reliability (internal consistency) analysis of the Work Procrastination Scale resulted in an alpha of .81. Further research into the reliability of the instrument is needed.

Objective 2. The second objective of this study was to analyze the instrument's ability to predict job performance. Results of the analysis showed that work procrastination was not a predictor of job performance in this study.

Objective 3. The third objective of this study was to analyze the relationship between work-related procrastination and goal orientation, conscientiousness, autonomy, and temperament. Work procrastination was significantly correlated with adult

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procrastination ($r = .49$) negative affect ($r = .35$), goal orientation ($r = -.53$), autonomy ($r = -.23$), competence ($r = -.48$), order ($r = -.39$), dutifulness ($r = -.30$), achievement-striving ($r = -.42$), self-discipline ($r = -.56$), deliberation ($r = -.44$), conscientiousness ($r = -.57$), and positive affect ($r = -.30$).

Stepwise regression analysis resulted in seven variables entering as significant predictors of work procrastination: conscientiousness ($\Delta R^2 = .35$, $p < .001$), dutifulness ($\Delta R^2 = .06$, $p < .001$), negative affect ($\Delta R^2 = .04$, $p < .01$), positive affect ($\Delta R^2 = .03$, $p < .01$), goal orientation ($\Delta R^2 = .02$, $p < .05$), autonomy ($\Delta R^2 = .02$, $p < .05$), and achievement-striving ($\Delta R^2 = .02$, $p < .05$). Collectively, these variables accounted for 54% of the variance in the task prioritization component.

Objective 4. The fourth objective of this study was to provide command- and base-level supervisors with useful information for improving productivity. The results of the analysis showed that work-related procrastination was significantly negatively related to goal orientation (tendency to set goals and objectives), conscientiousness (thoroughness and carefulness in performing a task), and autonomy (freedom, independence, and discretion in scheduling work) of workers. Thus, workers that set goals and objectives tend to procrastinate less on the job; workers that are thorough and careful in performing tasks tend to procrastinate less on the job; and, workers that possess freedom, independence, and discretion in scheduling work tend to procrastinate less. Also, in regards to conscientiousness, workers that are dutiful and achievement-striving tend to procrastinate less. Further, information was obtained by analyzing workers' temperament. As hypothesized, workers with a negative temperament (scared, hostile, jittery, etc.) tend to procrastinate more, and workers with a positive temperament (proud, inspired, enthusiastic, etc.) tend to procrastinate less.

Objective 5. The fifth objective of this study was to provide data and supporting documentation for current research in job performance being performed by members of

the Air Force Institute of Technology. Quite a bit of data and supporting documentation was collected during this study that is sure to be useful during future research efforts.

Analysis of Proposed Model

Figure 5-1 is a depiction of the proposed model for explaining the links between the predictor variables (goal orientation, conscientiousness, autonomy, and temperament), work procrastination, and job performance.
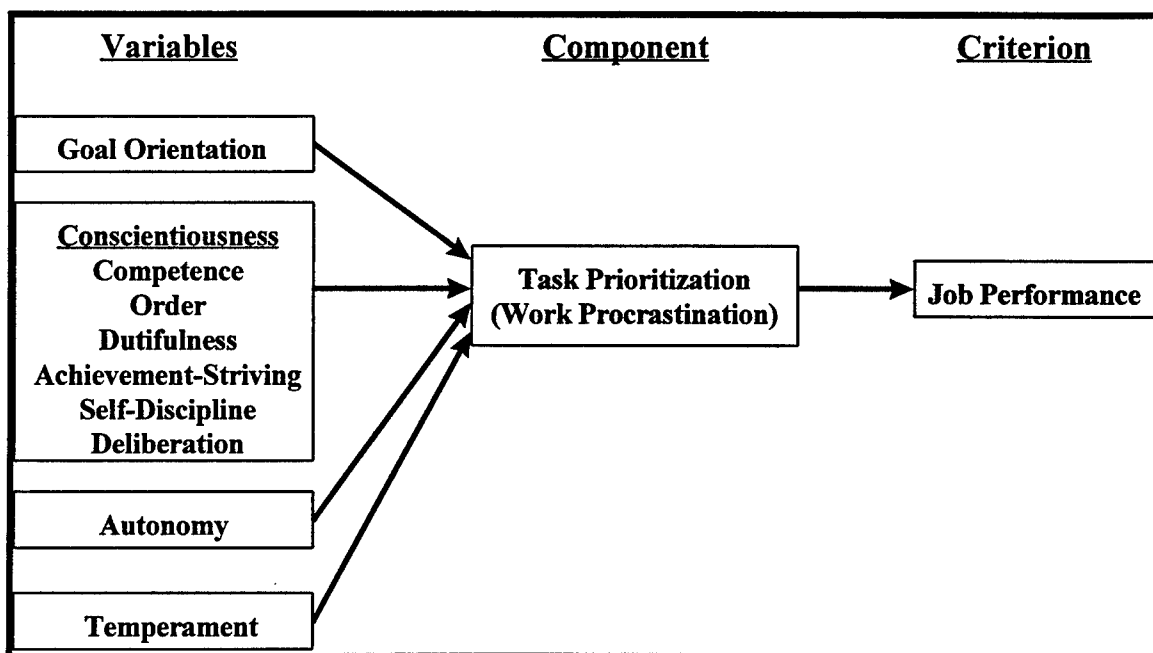
Figure 5-1. Individual Differences — Job Performance Linkage

The model presented in Figure 5-1 suggests the following hypotheses:

Hypothesis 1. Goal orientation, conscientiousness, autonomy, and temperament will be significant predictors of the ability to prioritize tasks.

Testing Hypothesis 1, seven variables entered as significant predictors of work procrastination: conscientiousness ($\Delta R^2 = .35$, $p < .001$), dutifulness ($\Delta R^2 = .06$, $p < .001$), negative affect ($\Delta R^2 = .04$, $p < .01$), positive affect ($\Delta R^2 = .03$, $p < .01$), goal orientation ($\Delta R^2 = .02$, $p < .05$), autonomy ($\Delta R^2 = .02$, $p < .05$), and achievement-

striving ($\Delta R^2 = .02$, p < .05). Collectively, these variables accounted for 54% of the variance in the task prioritization component. Results of the test support the acceptance of Hypothesis 1.

Hypothesis 2. The ability to prioritize tasks will be a significant predictor of job performance.

Testing Hypothesis 2, autonomy was the only variable that entered as a significant predictor of job performance. For the first group of evaluations, autonomy ($\Delta R^2 = .04$, p < .05) explained 4% of the variance in the job performance criterion. For the second group of evaluations, autonomy ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in the job performance criterion. For the average of the two groups of evaluations, autonomy ($\Delta R^2 = .06$, p < .01), explained 6% of the variance in the job performance criterion.

Autonomy, negative affect, and positive affect were the only variables that entered as significant predictors of job performance dimensions. For the interpersonal dimension, autonomy ($\Delta R^2 = .06$, p < .01) explained 6% of the variance in the job performance dimension. For the motivational dimension, autonomy ($\Delta R^2 = .08$, p < .001) and negative affect ($\Delta R^2 = .03$, p < .05) explained 11% of the variance in the job performance dimension. For the task dimension, autonomy ($\Delta R^2 = .03$, p < .05) and positive affect ($\Delta R^2 = .03$, p < .05) explained 6% of the variance in the job performance dimension. For the personnel decisions dimension, negative affect ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in the job performance dimension. For the overall performance dimension, autonomy ($\Delta R^2 = .08$, p < .001) explained 8% of the variance in the job performance dimension. For the combination of the interpersonal and task dimensions, autonomy ($\Delta R^2 = .04$, p < .05) explained 4% of the variance in the combination of the two performance dimensions. For the combination of motivational and task dimensions, autonomy ($\Delta R^2 = .05$, p < .01) explained 5% of the variance in the

combination of the two performance dimensions. Results of the test support the rejection of Hypothesis 2.

Study Limitations

As in any research effort, limitations exist that may have an impact on the current study and future research. Since this study represents the use of a new instrument and specific corroborating results could not be found in the literature, some limitations may be mitigated by future research efforts.

First, the respondents participating in this study were all 'blue suit' Air Force personnel. Although the instruments were designed to evaluate civil service personnel as well as military, no civil servants participated in the study. Also, the results of this study may be unique to the Air Force (or other Department of Defense components). Although the instruments used in this study were used with civilian populations in earlier studies, extrapolation of these results to the civilian community may not be appropriate.

Second, data was collected using self-report instruments. Gay (1992) stated that self-report instruments increase the possible presence of method and social desirability biases.

Third, the researcher was limited on the time available to collect data. Although 263 employees and 75 supervisors was deemed more than satisfactory for this research effort, the time allotted for data collection was only three days. Many people were on temporary duty assignments, sick, or otherwise not present for duty during data collection.

Fourth, funding was a limiting factor during data collection. Using the NEO Personality Inventory cost $0.07 for each survey (the researcher paid $24.50 for 350). Although the researcher did not reach the 350 cap, it did effect the data collection segment of the study because it was essential to distribute enough surveys to ensure a

suitable number of completed surveys were returned. The cap limited the number of surveys that could be out in the population during the 3-day collection period. Also, temporary duty funding may not be available in the future, and this type of research demands a hands-on approach to collecting data.

Further Research

Further research is needed. Given the lack of research on work-related procrastination, the field is wide-open for future research efforts. Several specific areas for worthwhile research efforts are:

1. Perform a factor analysis of the Work Procrastination Scale. There may be a couple of factors present within the instrument that would explain the current inability to predict performance.

2. Continue to use the Work Procrastination Scale as a measure of work-related procrastination. Since this was a new instrument, future use of the Work Procrastination Scale is essential to determining its full capabilities.

3. Investigate more fully relationships between the Work Procrastination Scale and the full Job Diagnostic Survey. Work-related procrastination may have a relationship with skill variety, task identity, task significance, feedback from the job itself, feedback from agents, and dealing with others.

Appendix A: Demographic Questions

BACKGROUND INFORMATION

Please answer the following questions about your background. This information will be used to develop a profile of the participants in this study. Your responses will be kept completely confidential.

1. Your age is (in years):

   1. 20 or Less
   2. 21 to 30
   3. 31 to 40
   4. 41 to 50
   5. 51 or More

2. Your race is:

   1. White
   2. Black
   3. Hispanic
   4. Asian
   5. Other

3. Your sex is:

   1. Male
   2. Female

4. Your highest education level obtained was (please darken only one circle):

   1. High school graduate or GED
   2. Some college work or Associate's degree
   3. Bachelor's degree
   4. Master's degree
   5. Doctoral degree

For questions 5 - 9, choose and answer the one that most accurately describes your current status.

5. If you are an officer, your grade (rank) is:

   1. O-1/2
   2. O-3
   3. O-4/5
   4. O-6
   5. O-7/8/9/10

6. If you are enlisted, your grade (rank) is:

   1. E-1/2
   2. E-3/4
   3. E-5/6
   4. E-7/8
   5. E-9

7. If you are Civil Service Wage Grade (WG), your grade is:

   1. 1-3
   2. 4-6
   3. 7-9
   4. 10-12
   5. 13-15

8. If you are Civil Service General Schedule (GS), your grade is:

   1. 1-3
   2. 4-6
   3. 7-9
   4. 10-12
   5. 13-15

9. If you are not a military or civil service employee, mark one (1).

Number of Months Observed:

Please enter the total number of <u>months</u> you have *worked with* or *observed* the work of each individual listed below on a regular basis.

Example: If you worked with a person for 2 years and 3 months, you would enter <u>27</u>.

For <u>EACH PERSON listed below,</u> write the total months here....

Column 9:

While performing his or her job, how likely is it that this person would demonstrate expertise on the job?

> 1 - Not At All Likely
> 2 - Slightly Likely
> 3 - Moderately Likely
> 4 - Very Likely
> 5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 9

Column 1:

While performing his or her job, how likely is it that this person would persist in overcoming obstacles to complete the task?

> 1 - Not At All Likely
> 2 - Slightly Likely
> 3 - Moderately Likely
> 4 - Very Likely
> 5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 1

....

Column 10:

Compared with unit performance standards, this person performs _____ .

> 1 - Much Below Average
> 2 - Below Average
> 3 - Average
> 4 - Above Average
> 5 - Much Above Average

For <u>EACH PERSON listed below,</u> write the number in COLUMN 10

....

Column 2:

While performing his or her job, how likely is it that this person would cooperate with others effectively?

> 1 - Not At All Likely
> 2 - Slightly Likely
> 3 - Moderately Likely
> 4 - Very Likely
> 5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 2

....

Column 11:

Compared with others of the same rank, how well does this person perform his or her job?

> 1 - Much Below Average
> 2 - Below Average
> 3 - Average
> 4 - Above Average
> 5 - Much Above Average

For <u>EACH PERSON listed below</u>, write the number in COLUMN 11

....

Column 3:

While performing his or her job, how likely is it that this person would operate equipment effectively?

1 - Not At All Likely
2 - Slightly Likely
3 - Moderately Likely
4 - Very Likely
5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 3

↓

....

Column 12:

Compared with other members of the unit, how much does this person contribute to unit effectiveness?

1 - Much Below Average
2 - Below Average
3 - Average
4 - Above Average
5 - Much Above Average

For <u>EACH PERSON listed below</u>, write the number in COLUMN 12

↓

....

Column 4:

While performing his or her job, how likely is it that this person would pay close attention to important details?

      1 - Not At All Likely
      2 - Slightly Likely
      3 - Moderately Likely
      4 - Very Likely
      5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 4

....

Column 13:

If the opportunity arose, how likely is it that you would choose this person to attend a professional military education course in residence?

      1 - Not At All Likely
      2 - Slightly Likely
      3 - Moderately Likely
      4 - Very Likely
      5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 13

....

Column 5:

While performing his or her job, how likely is it that this person would offer to help others with their work?

        1 - Not At All Likely
        2 - Slightly Likely
        3 - Moderately Likely
        4 - Very Likely
        5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 5

....

Column 14:

If the opportunity arose, how likely is it that you would help this person move to a job that would help his or her career?

        1 - Not At All Likely
        2 - Slightly Likely
        3 - Moderately Likely
        4 - Very Likely
        5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 14

....

Column 6:

While performing his or her job, how likely is it that this person would perform job tasks effectively?

1 - Not At All Likely
2 - Slightly Likely
3 - Moderately Likely
4 - Very Likely
5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 6

↓

....

Column 15:

If the opportunity arose, how likely is it that you would recommend this person for early promotion?

1 - Not At All Likely
2 - Slightly Likely
3 - Moderately Likely
4 - Very Likely
5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 15

↓

....

Column 7:

While performing his or her job, how likely is it that this person would take the initiative to solve a work problem?

> 1 - Not At All Likely
> 2 - Slightly Likely
> 3 - Moderately Likely
> 4 - Very Likely
> 5 - Exceptionally Likely

For <u>EACH PERSON listed below</u>, write the number in COLUMN 7

....

Column 16:

Based on your personal knowledge of this person's behavior at work, how <u>qualified</u> do you feel you are you to judge his or her <u>performance level?</u>

> 1 - Not *Qualified* at All
> 2 - Not Very *Qualified*
> 3 - Fairly *Qualified*
> 4 - Very *Qualified*
> 5 - Extremely *Qualified*

For <u>EACH PERSON listed below</u>, write the number in COLUMN 16

....

Column 8:

While performing his or her job, how likely is it that this person would support a co-worker with a problem?

1 - Not At All Likely
2 - Slightly Likely
3 - Moderately Likely
4 - Very Likely
5 - Exceptionally Likely

For <u>EACH PERSON listed below,</u> write the number in COLUMN 8

↓

....

Column 17:

How confident are you that your ratings accurately reflect this person's performance?

1 - Not *Confident* at All
2 - Not Very *Confident*
3 - Fairly *Confident*
4 - Very *Confident*
5 - Extremely *Confident*

For <u>EACH PERSON listed below</u>, write the number in COLUMN 17

↓

....

Column 18:

Overall, how relevant are the items in column 1-15 for this person's job?

1 - Not *Relevant* at All
2 - Not Very *Relevant*
3 - Fairly *Relevant*
4 - Very *Relevant*
5 - Extremely *Relevant*

For <u>EACH PERSON listed below,</u> write the number in COLUMN 18

No.	Name/Rank	# Months observed	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Appendix C: Positive Affect/Negative Affect Scale (PANAS)

This section consists of a number of words that describe different feelings that people experience. Your responses to these questions will help us understand your reactions to recent changes in the Air Force. Indicate on your answer sheet what extent *you* have felt this way during *the past year*.

Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely
1	2	3	4	5

113. Interested _____	120. Hostile _____	127. Nervous _____
114. Distressed _____	121. Enthusiastic _____	128. Determined _____
115. Excited _____	122. Proud _____	129. Attentive _____
116. Upset _____	123. Irritable _____	130. Jittery _____
117. Strong _____	124. Alert _____	131. Active _____
118. Guilty _____	125. Ashamed _____	132. Afraid _____
119. Scared _____	126. Inspired _____	

Appendix D: Employee Demographic Data

RESPONSE	AGE	%
20 or Less	18	7%
21 to 30	147	56%
31 to 40	81	31%
41 to 50	17	6%
51 or More	0	0%
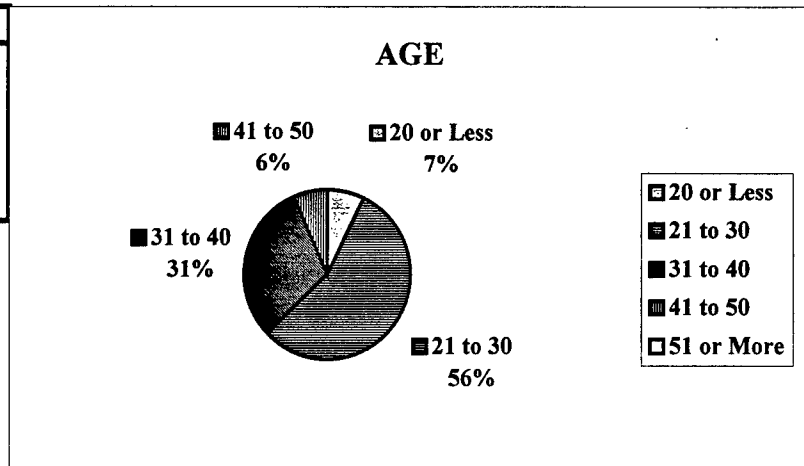
Figure D-1. Employee Age Demographics

RESPONSE	RACE	%
White	201	76%
Black	24	9%
Hispanic	18	7%
Asian	3	1%
Other	17	6%
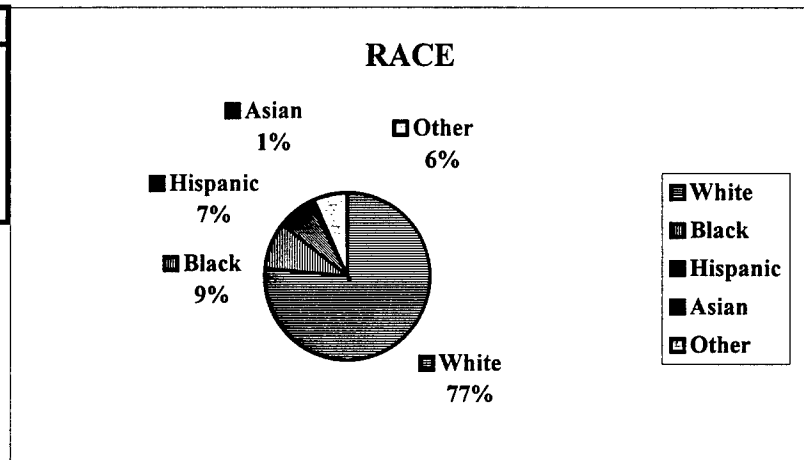
Figure D-2. Employee Race Demographics

RESPONSE	SEX	%
Male	240	91%
Female	23	9%
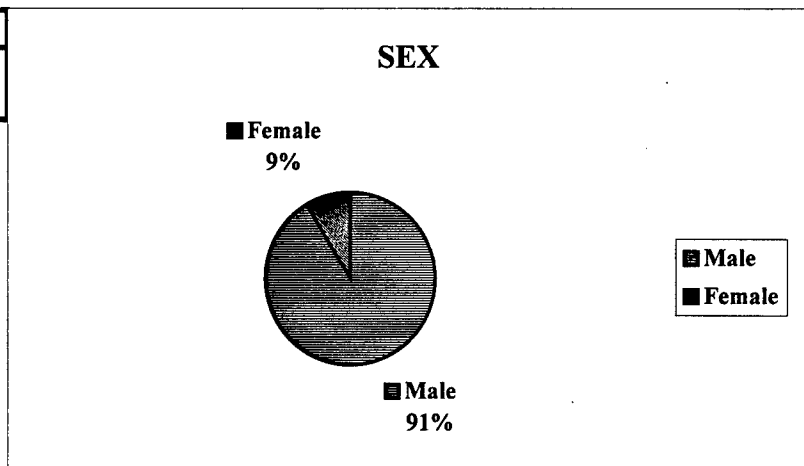
Figure D-3. Employee Sex Demographics

D-1

RESPONSE	EDUCATION	%
High School/GED	69	26%
Some College/Associate's	177	67%
Bachelor's	15	6%
Master's	2	1%
Doctoral	0	0%

EDUCATION

Master's 1%

Bachelor 6%

Some College/ Associate 67%

High School/ GED 26%

- High School/GED
- Some College/Associate's
- Bachelor's
- Master's
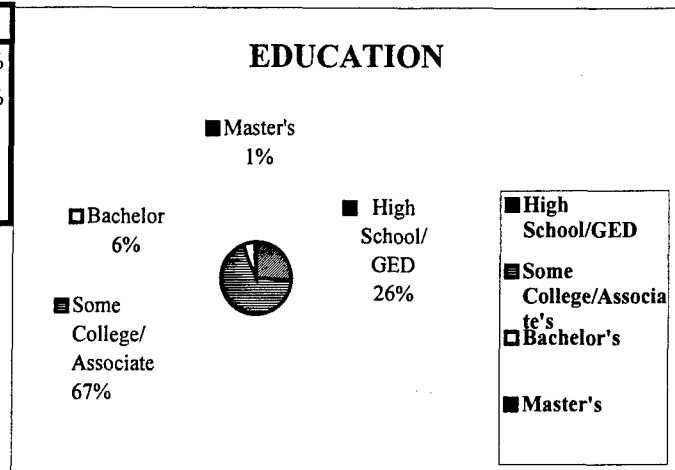
Figure D-4. Employee Education Demographics

RESPONSE	OFFICER RANK	%
0-1/2	6	75%
0-3	2	25%
0-4/5	0	0%
0-6	0	0%
0-7/8/9/10	0	0%

OFFICER RANK

0-3 25%

0-1/2 75%

- 0-1/2
- 0-3
- 0-4/5
- 0-6
- 0-7/8/9/10
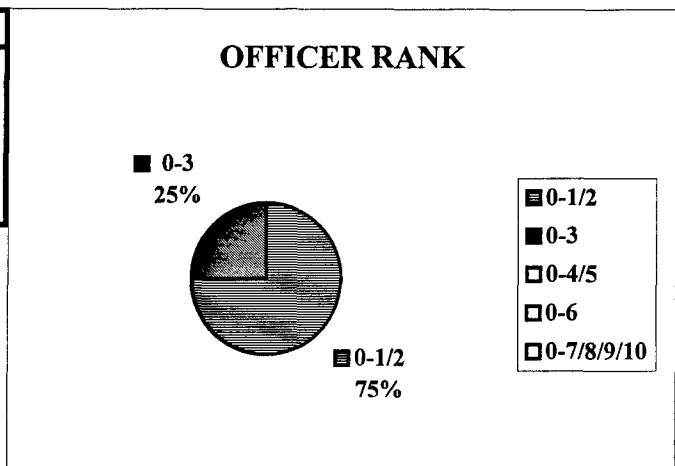
Figure D-5. Employee Officer Rank Demographics

RESPONSE	ENLISTED RANK	%
E-1/2	14	1%
E-3/4	115	45%
E-5/6	81	32%
E-7/8	42	16%
E-9	3	1%

ENLISTED RANK

E-9 1%

E-7/8 16%

E-1/2 5%

E-5/6 32%

E-3/4 46%

- E-1/2
- E-3/4
- E-5/6
- E-7/8
- E-9
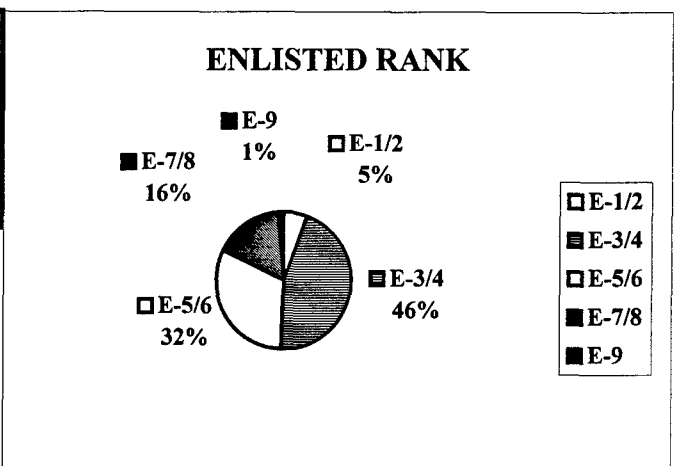
Figure D-6. Employee Enlisted Rank Demographic

D-2

Appendix E: Supervisor Demographic Data

RESPONSE	AGE	%
20 or Less	0	0%
21 to 30	13	17%
31 to 40	55	73%
41 to 50	7	9%
51 or More	0	0%

AGE

■41 to 50
9%

■21 to 30
17%

□20 or Less
■21 to 30
■31 to 40
■41 to 50
□51 or More

■31 to 40
74%
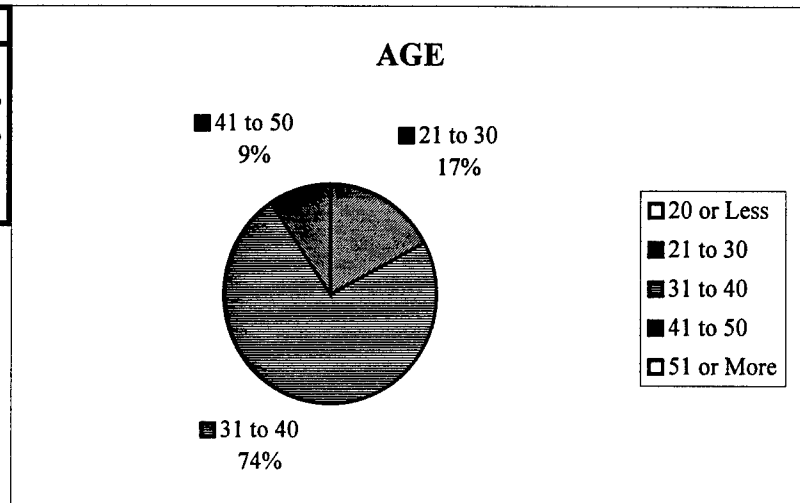
Figure E-1. Supervisor Age Demographics

RESPONSE	RACE	%
White	62	83%
Black	6	8%
Hispanic	3	4%
Asian	0	0%
Other	4	5%

RACE

■Hispanic   ■Other
4%   5%

■Black
8%

■White
■Black
■Hispanic
□Asian
■Other

■White
83%
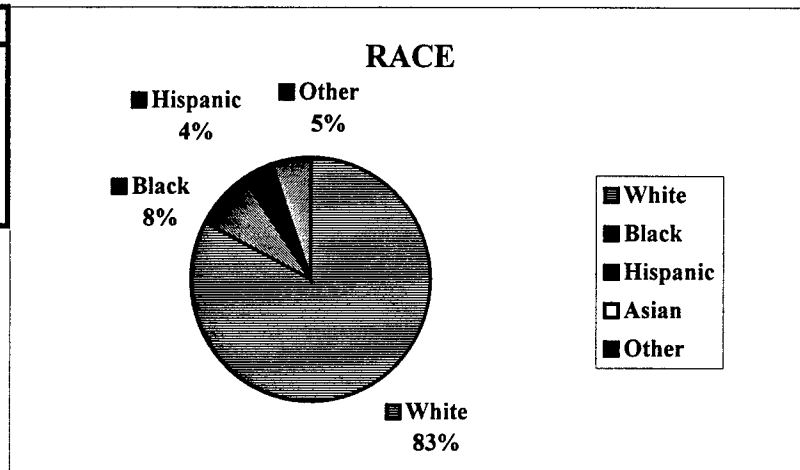
Figure E-2. Supervisor Race Demographics

RESPONSE	SEX	%
Male	70	93%
Female	5	7%

SEX

■Female
7%

■Male
■Female

■Male
93%
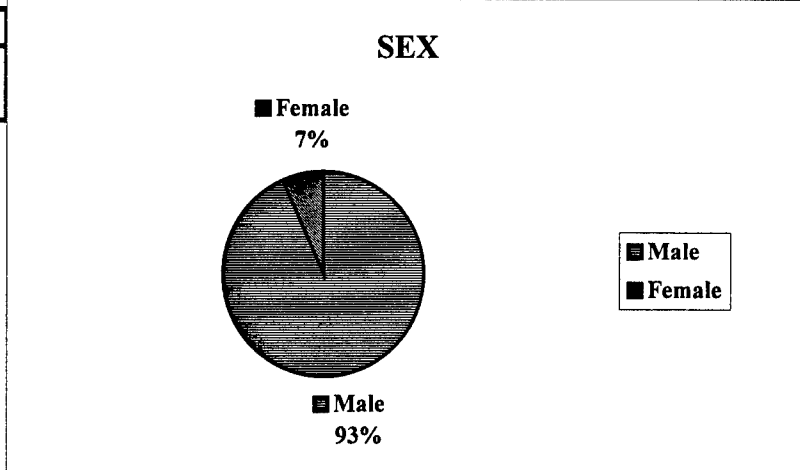
Figure E-3. Supervisor Sex Demographics

E-1

RESPONSE	EDUCATION	%
High School/GED	7	9%
Some College/Associate's	57	76%
Bachelor's	6	8%
Master's	5	7%
Doctoral	0	0%

EDUCATION

■ Master's 7%
■ High School/ GED 9%
■ Bachelor 8%
■ Some College/ Associate 76%

■ High School/GED
▤ Some College/Associate's
■ Bachelor's
■ Master's
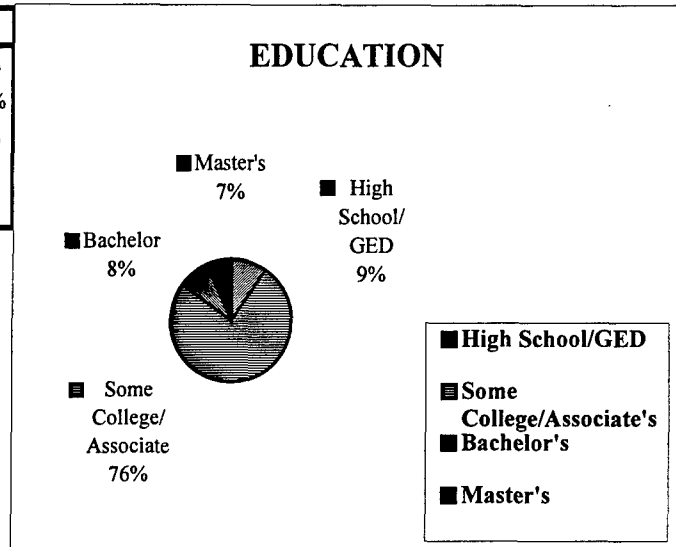
Figure E-4. Supervisor Education Demographics

RESPONSE	OFFICER RANK	%
0-1/2	5	56%
0-3	2	22%
0-4/5	2	22%
0-6	0	0%
0-7/8/9/10	0	0%

OFFICER RANK

■0-4/5 22%
▤0-1/2 56%
■ 0-3 22%

▤0-1/2
■0-3
■0-4/5
□0-6
□0-7/8/9/10
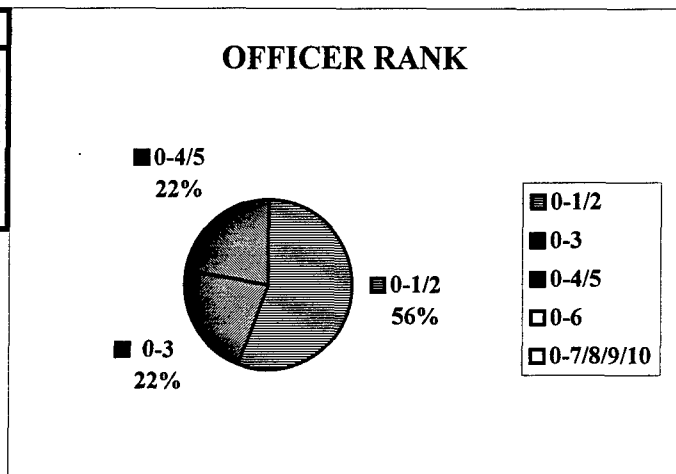
Figure E-5. Supervisor Officer Rank Demographics

RESPONSE	ENLISTED RANK	%
E-1/2	0	0%
E-3/4	0	0%
E-5/6	35	53%
E-7/8	28	42%
E-9	3	5%

ENLISTED RANK

■E-9 5%
■E-7/8 42%
▤E-5/6 53%

□E-1/2
□E-3/4
▤E-5/6
■E-7/8
■E-9
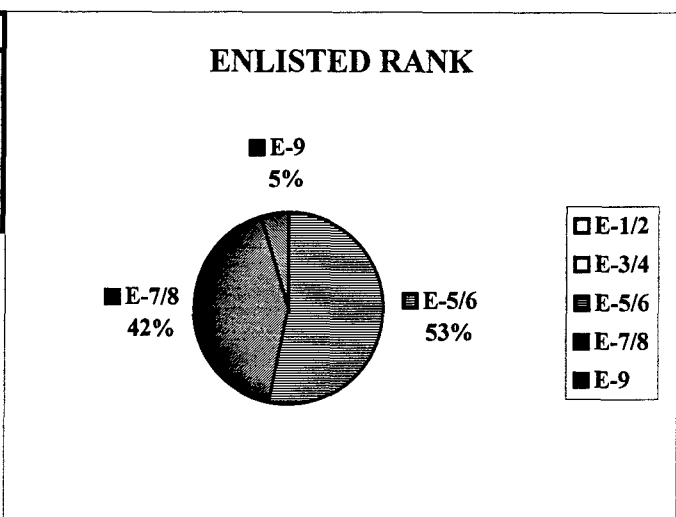
Figure E-6. Supervisor Enlisted Rank Demographic

Appendix F: Reliability Analyses

Table F-1. Reliability Analysis of the Adult Inventory of Procrastination				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 10)	32.1559	37.0939	.2979	.6970
Item 2 (Survey Question 12)	31.8517	36.0962	.3184	.6938
Item 3 (Survey Question 18)	31.4259	35.4134	.3390	.6911
Item 4 (Survey Question 22)	30.7110	34.9391	.3244	.6928
Item 5 (Survey Question 25)	31.3232	35.2043	.3735	.6874
Item 6 (Survey Question 30)	30.3384	37.4156	.0690	.7321
Item 7 (Survey Question 35)	31.1141	34.0633	.4637	.6764
Item 8 (Survey Question 47)	30.8555	35.3378	.2644	.7012
Item 9 (Survey Question 60)	31.8327	35.9337	.3769	.6887
Item 10 (Survey Question 65)	30.4943	37.8234	.0729	.7260
Item 11 (Survey Question 70)	31.1217	34.0538	.4851	.6745
Item 12 (Survey Question 73)	31.3574	35.6046	.3284	.6924
Item 13 (Survey Question 87)	31.4449	35.7365	.3582	.6897
Item 14 (Survey Question 90)	31.1293	35.3115	.3326	.6918
Item 15 (Survey Question 93)	31.4981	34.2051	.5109	.6731
ALPHA = 0.7087				

Table F-2. Reliability Analysis of the Goal Orientation Scale				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 13)	49.7414	65.7039	.4278	.8746
Item 2 (Survey Question 19)	50.8669	62.2150	.5219	.8713
Item 3 (Survey Question 23)	49.6198	67.8396	.3966	.8750
Item 4 (Survey Question 42)	50.1369	64.5308	.5690	.8678
Item 5 (Survey Question 46)	49.8289	63.6538	.6785	.8634
Item 6 (Survey Question 67)	50.3308	61.0772	.7550	.8585
Item 7 (Survey Question 79)	50.1711	62.4706	.6497	.8637
Item 8 (Survey Question 83)	50.4068	67.0972	.3526	.8779
Item 9 (Survey Question 85)	49.7490	67.9062	.3932	.8751
Item 10 (Survey Question 88)	50.0684	63.3464	.7021	.8623
Item 11 (Survey Question 92)	50.7871	64.7636	.4664	.8730
Item 12 (Survey Question 94)	50.0380	64.6856	.6090	.8664
Item 13 (Survey Question 98)	50.8935	65.1947	.5105	.8705
Item 14 (Survey Question 99)	50.0760	67.8568	.3703	.8762
Item 15 (Survey Question 102)	50.2510	63.7841	.6145	.8657
ALPHA = 0.8772				

Table F-3. Reliability Analysis of the Job Diagnostic Survey (Autonomy)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 41)	6.6388	3.5980	.5008	.6300
Item 2 (Survey Question 95)	7.0494	2.9708	.5556	.5585
Item 3 (Survey Question 112)	7.1179	3.3868	.4987	.6308
ALPHA = 0.7002				

Table F-4. Reliability Analysis of the Competence Facet (C1)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 11)	27.2091	11.4561	.4592	.6387
Item 2 (Survey Question 15)	27.3840	11.7718	.3846	.6536
Item 3 (Survey Question 29)	28.1027	10.9703	.2745	.6907
Item 4 (Survey Question 32)	27.5932	10.7919	.3820	.6540
Item 5 (Survey Question 33)	27.3916	11.4758	.4673	.6377
Item 6 (Survey Question 56)	28.3042	11.3422	.3142	.6708
Item 7 (Survey Question 82)	27.9506	11.5892	.3638	.6571
Item 8 (Survey Question 84)	27.4297	11.5819	.4799	.6372
ALPHA = 0.6843				

Table F-5. Reliability Analysis of the Order Facet (C2)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 17)	24.8137	12.6713	.1972	.5806
Item 2 (Survey Question 36)	25.5209	13.5940	.1038	.6060
Item 3 (Survey Question 39)	24.3726	11.6469	.4540	.4969
Item 4 (Survey Question 45)	24.4144	12.2589	.3828	.5217
Item 5 (Survey Question 49)	25.3194	11.8213	.2989	.5458
Item 6 (Survey Question 51)	24.9544	13.3491	.1741	.5818
Item 7 (Survey Question 71)	24.4829	11.6476	.5047	.4859
Item 8 (Survey Question 74)	24.6502	12.8161	.2530	.5591
ALPHA = 0.5821				

Table F-6. Reliability Analysis of the Dutifulness Facet (C3)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 14)	28.4068	12.7842	.1959	.6758
Item 2 (Survey Question 28)	28.8327	12.4834	.1689	.6947
Item 3 (Survey Question 50)	28.2928	12.6124	.4732	.6138
Item 4 (Survey Question 53)	28.4373	11.9875	.3575	.6308
Item 5 (Survey Question 54)	28.2015	12.0928	.5036	.6018
Item 6 (Survey Question 55)	28.1445	11.7271	.5884	.5836
Item 7 (Survey Question 57)	28.3460	11.8455	.3565	.6314
Item 8 (Survey Question 59)	28.5589	12.1788	.4151	.6178
ALPHA = 0.6623				

Table F-7. Reliability Analysis of the Achievement-Striving Facet (C4)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 16)	25.7833	14.3994	.3956	.6994
Item 2 (Survey Question 27)	25.2319	15.1330	.5479	.6726
Item 3 (Survey Question 40)	25.2395	14.7019	.5872	.6631
Item 4 (Survey Question 58)	26.3270	15.4728	.2351	.7399
Item 5 (Survey Question 62)	25.8821	14.5319	.5477	.6671
Item 6 (Survey Question 64)	25.3460	14.7004	.5706	.6653
Item 7 (Survey Question 81)	25.8935	16.0802	.2829	.7186
Item 8 (Survey Question 96)	26.2510	15.4101	.3063	.7175
ALPHA = 0.7212				

Table F-8. Reliability Analysis of the Self-Discipline Facet (C5)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 38)	27.1863	13.2438	.4871	.7551
Item 2 (Survey Question 44)	27.3384	12.7896	.4571	.7593
Item 3 (Survey Question 69)	27.4297	13.2460	.4389	.7619
Item 4 (Survey Question 72)	27.6692	12.3444	.4974	.7526
Item 5 (Survey Question 75)	27.2662	13.0587	.4344	.7628
Item 6 (Survey Question 76)	27.4753	12.0900	.5624	.7406
Item 7 (Survey Question 86)	27.5361	12.5168	.5438	.7447
Item 8 (Survey Question 106)	27.4677	13.1278	.4331	.7629
ALPHA = 0.7790				

Table F-9. Reliability Analysis of the Deliberation Facet (C6)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Item 1 (Survey Question 21)	23.5437	11.8903	.3391	.6210
Item 2 (Survey Question 26)	23.0342	12.2393	.3968	.6103
Item 3 (Survey Question 52)	23.7529	11.9120	.3820	.6107
Item 4 (Survey Question 77)	24.5475	12.2792	.1889	.6680
Item 5 (Survey Question 80)	23.4905	11.6173	.4284	.5987
Item 6 (Survey Question 104)	23.3004	12.2568	.3268	.6242
Item 7 (Survey Question 107)	23.9125	11.1564	.4374	.5935
Item 8 (Survey Question 110)	24.1901	11.8721	.3047	.6309
ALPHA = 0.6510				

Table F-10. Reliability Analysis of the NEO PI-R Conscientiousness Scale				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Competence Facet (C1)	148.6920	237.4735	.7655	.8262
Order Facet (C2)	151.9544	252.2575	.5861	.8568
Dutifulness Facet (C3)	147.8555	248.1623	.6286	.8495
Achievement-Striving Facet (C4)	150.8935	224.2940	.7481	.8274
Self-Discipline Facet (C5)	148.9772	229.1980	.7812	.8217
Deliberation Facet (C6)	153.2053	265.8966	.4775	.8743
ALPHA = 0.8663				

Table F-11. Reliability Analysis of Positive Affect (PA)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Interested	28.8555	62.8416	.5955	.9134
Excited	29.4144	60.9001	.6495	.9107
Strong	29.1825	61.8521	.6448	.9108
Enthusiastic	29.2015	59.7340	.7179	.9066
Proud	28.9620	58.2276	.7421	.9052
Alert	28.8745	62.0414	.6536	.9103
Inspired	29.4259	59.6424	.7024	.9076
Determined	28.7757	59.3197	.7576	.9043
Attentive	28.9202	60.7837	.7016	.9077
Active	28.8175	59.9742	.7355	.9057
ALPHA = 0.9167				

Table F-12. Reliability Analysis of Negative Affect (NA)				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Distressed	19.3992	45.6377	.5614	.8459
Upset	19.3536	44.5272	.6000	.8425
Guilty	20.7452	50.7020	.3725	.8592
Scared	20.3080	45.3742	.6458	.8391
Hostile	19.9658	43.8271	.6036	.8424
Irritable	19.3764	46.0906	.5280	.8488
Ashamed	20.6388	48.8728	.4194	.8567
Nervous	19.9392	44.0803	.6394	.8389
Jittery	20.1027	45.4207	.5649	.8456
Afraid	20.3612	44.1247	.7150	.8329
ALPHA = 0.8588				

Table F-13. Reliability Analysis of Performance Evaluation 1				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Question 1 (Evaluation 1)	56.7773	105.7581	.8400	.9526
Question 2 (Evaluation 1)	56.4375	110.3020	.6862	.9558
Question 3 (Evaluation 1)	56.2617	111.9665	.6857	.9559
Question 4 (Evaluation 1)	56.5430	108.0609	.8257	.9531
Question 5 (Evaluation 1)	56.4609	109.0259	.6746	.9561
Question 6 (Evaluation 1)	56.3867	108.7714	.8451	.9530
Question 7 (Evaluation 1)	56.6719	105.0213	.8346	.9527
Question 8 (Evaluation 1)	56.5234	109.1053	.6952	.9556
Question 9 (Evaluation 1)	56.5313	106.2657	.8512	.9524
Question 10 (Evaluation 1)	56.6250	107.8196	.8415	.9528
Question 11 (Evaluation 1)	56.6523	108.1257	.8371	.9530
Question 12 (Evaluation 1)	56.6094	109.0625	.7581	.9544
Question 13 (Evaluation 1)	56.5000	107.1686	.6908	.9561
Question 14 (Evaluation 1)	56.3906	109.8154	.6489	.9566
Question 15 (Evaluation 1)	56.9414	103.0671	.7504	.9556
ALPHA = 0.9573				

Table F-14. Reliability Analysis of Performance Evaluation 1 Dimensions				
Dimension	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Interpersonal				
Question 2 (Evaluation 1)	8.2243	3.0067	.6660	.8069
Question 5 (Evaluation 1)	8.2510	2.6238	.7106	.7641
Question 8 (Evaluation 1)	8.3080	2.6720	.7262	.7474
ALPHA = 0.8372				
Motivational				
Question 1 (Evaluation 1)	7.9962	3.1641	.7838	.8675
Question 4 (Evaluation 1)	7.7643	3.5167	.7929	.8653
Question 7 (Evaluation 1)	7.8745	2.8888	.8323	.8271
ALPHA = 0.8981				
Task				
Question 3 (Evaluation 1)	8.2615	2.7267	.6893	.8938
Question 6 (Evaluation 1)	8.3885	2.3311	.8438	.7604
Question 9 (Evaluation 1)	8.5269	2.0572	.7872	.8183
ALPHA = 0.8785				
Personnel Decisions				
Question 13 (Evaluation 1)	7.8764	3.8606	.8125	.7408
Question 14 (Evaluation 1)	7.7683	4.5043	.7492	.8126
Question 15 (Evaluation 1)	8.3166	3.5893	.6929	.8737
ALPHA = 0.8631				
Overall Performance				
Question 10 (Evaluation 1)	7.9421	2.5819	.8370	.8641
Question 11 (Evaluation 1)	7.9691	2.5572	.8705	.8364
Question 12 (Evaluation 1)	7.9266	2.6884	.7684	.9210
ALPHA = 0.9127				

Table F-15. Reliability Analysis of Performance Evaluation 2				
	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Question 1 (Evaluation 2)	54.9085	120.9206	.8332	.9536
Question 2 (Evaluation 2)	54.5141	127.5991	.6452	.9573
Question 3 (Evaluation 2)	54.3028	127.6027	.6487	.9573
Question 4 (Evaluation 2)	54.5775	123.8911	.7841	.9547
Question 5 (Evaluation 2)	54.3521	124.8822	.7393	.9556
Question 6 (Evaluation 2)	54.3451	123.1212	.8133	.9542
Question 7 (Evaluation 2)	54.6831	120.0194	.8299	.9537
Question 8 (Evaluation 2)	54.4225	124.7989	.6453	.9576
Question 9 (Evaluation 2)	54.5704	121.7078	.7911	.9545
Question 10 (Evaluation 2)	54.6620	121.3176	.8908	.9526
Question 11 (Evaluation 2)	54.7183	121.5513	.8683	.9530
Question 12 (Evaluation 2)	54.7324	122.9492	.8150	.9541
Question 13 (Evaluation 2)	54.5986	121.5186	.7431	.9557
Question 14 (Evaluation 2)	54.4718	124.7758	.7007	.9563
Question 15 (Evaluation 2)	55.0423	120.1968	.7049	.9571
ALPHA = 0.9580				

Table F-16. Reliability Analysis of Performance Evaluation 2 Dimensions				
Dimensions	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	ALPHA IF ITEM DELETED
Interpersonal				
Question 2 (Evaluation 2)	8.3032	3.0828	.6405	.7968
Question 5 (Evaluation 2)	8.1290	2.5806	.7916	.6429
Question 8 (Evaluation 2)	8.1871	2.5817	.6269	.8232
ALPHA = 0.8236				
Motivational				
Question 1 (Evaluation 2)	7.8839	3.5319	.7980	.8523
Question 4 (Evaluation 2)	7.5742	3.9863	.7895	.8642
Question 7 (Evaluation 2)	7.6774	3.3888	.8128	.8407
ALPHA = 0.8970				
Task				
Question 3 (Evaluation 2)	8.0704	3.3567	.7221	.8335
Question 6 (Evaluation 2)	8.1127	2.9659	.7804	.7756
Question 9 (Evaluation 2)	8.3380	2.7360	.7418	.8192
ALPHA = 0.8650				
Personnel Decisions				
Question 13 (Evaluation 2)	7.5329	3.9857	.7718	.7550
Question 14 (Evaluation 2)	7.4013	4.6922	.7355	.8035
Question 15 (Evaluation 2)	7.9605	3.7600	.7022	.8356
ALPHA = 0.8553				
Overall Performance				
Question 10 (Evaluation 2)	7.6516	3.3713	.8565	.9037
Question 11 (Evaluation 2)	7.6774	3.1810	.8933	.8739
Question 12 (Evaluation 2)	7.6903	3.4100	.8305	.9240
ALPHA = 0.9319				

Appendix G: Descriptive Statistics

Table G-1. Descriptive Statistics -- Adult Inventory of Procrastination					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 10)	1.32	.69	1	5	263
Item 2 (Survey Question 12)	1.62	.85	1	5	263
Item 3 (Survey Question 18)	2.05	.93	1	5	263
Item 4 (Survey Question 22)	2.76	1.05	1	5	263
Item 5 (Survey Question 25)	2.15	.91	1	5	263
Item 6 (Survey Question 30)	3.14	1.26	1	5	263
Item 7 (Survey Question 35)	2.36	.94	1	5	263
Item 8 (Survey Question 47)	2.62	1.11	1	5	263
Item 9 (Survey Question 60)	1.64	.78	1	4	263
Item 10 (Survey Question 65)	2.98	1.11	1	5	263
Item 11 (Survey Question 70)	2.35	.91	1	5	263
Item 12 (Survey Question 73)	2.12	.92	1	5	263
Item 13 (Survey Question 87)	2.03	.84	1	5	263
Item 14 (Survey Question 90)	2.35	.96	1	5	263
Item 15 (Survey Question 93)	1.98	.86	1	5	263

Table G-2. Descriptive Statistics -- Goal Orientation Scale					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 13)	4.04	1.01	1	5	263
Item 2 (Survey Question 19)	2.92	1.22	1	5	263
Item 3 (Survey Question 23)	4.16	.81	1	5	263
Item 4 (Survey Question 42)	3.65	.92	1	5	263
Item 5 (Survey Question 46)	3.95	.86	1	5	263
Item 6 (Survey Question 67)	3.45	.99	1	5	263
Item 7 (Survey Question 79)	3.61	1.00	1	5	263
Item 8 (Survey Question 83)	3.38	.98	1	5	263
Item 9 (Survey Question 85)	4.03	.80	1	5	263
Item 10 (Survey Question 88)	3.71	.86	1	5	263
Item 11 (Survey Question 92)	3.00	1.05	1	5	263
Item 12 (Survey Question 94)	3.75	.85	1	5	263
Item 13 (Survey Question 98)	2.89	.93	1	5	263
Item 14 (Survey Question 99)	3.71	.85	1	5	263
Item 15 (Survey Question 102)	3.53	.93	1	5	263

Table G-3. Descriptive Statistics -- Job Diagnostic Survey (Autonomy)

Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Item 1 (Survey Question 41)	3.76	1.00	1	5	263
Item 2 (Survey Question 95)	3.35	1.15	1	5	263
Item 3 (Survey Question 112)	3.29	1.07	1	5	263

Table G-4. Descriptive Statistics -- Competence Facet (C1)

Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Item 1 (Survey Question 11)	4.41	.72	1	5	263
Item 2 (Survey Question 15)	4.24	.73	1	5	263
Item 3 (Survey Question 29)	3.52	1.11	1	5	263
Item 4 (Survey Question 32)	4.03	.98	1	5	263
Item 5 (Survey Question 33)	4.23	.71	2	5	263
Item 6 (Survey Question 56)	3.32	.94	1	5	263
Item 7 (Survey Question 82)	3.67	.80	1	5	263
Item 8 (Survey Question 84)	4.19	.67	1	5	263

Table G-5. Descriptive Statistics -- Order Facet (C2)

Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Item 1 (Survey Question 17)	3.55	1.09	1	5	263
Item 2 (Survey Question 36)	2.84	1.01	1	5	263
Item 3 (Survey Question 39)	3.99	.93	1	5	263
Item 4 (Survey Question 45)	3.95	.88	1	5	263
Item 5 (Survey Question 49)	3.04	1.12	1	5	263
Item 6 (Survey Question 51)	3.41	.92	1	5	263
Item 7 (Survey Question 71)	3.88	.87	1	5	263
Item 8 (Survey Question 74)	3.71	.93	1	5	263

Table G-6. Descriptive Statistics -- Dutifulness Facet (C3)					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 14)	4.05	1.01	1	5	263
Item 2 (Survey Question 28)	3.63	1.16	1	5	263
Item 3 (Survey Question 50)	4.17	.65	1	5	263
Item 4 (Survey Question 53)	4.02	.94	1	5	263
Item 5 (Survey Question 54)	4.26	.74	2	5	263
Item 6 (Survey Question 55)	4.32	.73	1	5	263
Item 7 (Survey Question 57)	4.11	.98	1	5	263
Item 8 (Survey Question 59)	3.90	.82	1	5	263

Table G-7. Descriptive Statistics -- Achievement-Striving Facet (C4)					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 16)	3.64	1.10	1	5	263
Item 2 (Survey Question 27)	4.19	.75	1	5	263
Item 3 (Survey Question 40)	4.18	.79	1	5	263
Item 4 (Survey Question 58)	3.10	1.15	1	5	263
Item 5 (Survey Question 62)	3.54	.87	1	5	263
Item 6 (Survey Question 64)	4.08	.81	1	5	263
Item 7 (Survey Question 81)	3.53	.89	1	5	263
Item 8 (Survey Question 96)	3.17	1.02	1	5	263

Table G-8. Descriptive Statistics -- Self-Discipline Facet (C5)					
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Valid N**
Item 1 (Survey Question 38)	4.15	.70	1	5	263
Item 2 (Survey Question 44)	4.00	.83	1	5	263
Item 3 (Survey Question 69)	3.91	.75	1	5	263
Item 4 (Survey Question 72)	3.67	.88	1	5	263
Item 5 (Survey Question 75)	4.07	.80	1	5	263
Item 6 (Survey Question 76)	3.86	.86	1	5	263
Item 7 (Survey Question 86)	3.80	.80	1	5	263
Item 8 (Survey Question 106)	3.87	.79	1	5	263

Table G-9. Descriptive Statistics -- Deliberation Facet (C6)					
Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Item 1 (Survey Question 21)	3.57	.90	1	5	263
Item 2 (Survey Question 26)	4.08	.73	1	5	263
Item 3 (Survey Question 52)	3.36	.83	1	5	263
Item 4 (Survey Question 77)	2.56	1.06	1	5	263
Item 5 (Survey Question 80)	3.62	.85	1	5	263
Item 6 (Survey Question 104)	3.81	.82	1	5	263
Item 7 (Survey Question 107)	3.20	.94	1	5	263
Item 8 (Survey Question 110)	2.92	.96	1	5	263

Table G-10. Descriptive Statistics -- Positive Affect (PA)					
Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Interested	3.41	1.07	1	5	263
Excited	2.86	1.16	1	5	263
Strong	3.09	1.09	1	5	263
Enthusiastic	3.07	1.17	1	5	263
Proud	3.31	1.26	1	5	263
Alert	3.40	1.06	1	5	263
Inspired	2.84	1.20	1	5	263
Determined	3.49	1.15	1	5	263
Attentive	3.35	1.10	1	5	263
Active	3.45	1.12	1	5	263

Table G-11. Descriptive Statistics -- Negative Affect (NA)					
Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Distressed	2.84	1.16	1	5	263
Upset	2.89	1.22	1	5	263
Guilty	1.50	.82	1	5	263
Scared	1.94	1.06	1	5	263
Hostile	2.28	1.29	1	5	263
Irritable	2.87	1.16	1	5	263
Ashamed	1.60	1.00	1	5	263
Nervous	2.30	1.20	1	5	263
Jittery	2.14	1.18	1	5	263
Afraid	1.88	1.10	1	5	263

Table G-12. Descriptive Statistics -- Performance Evaluation 1					
Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Question 1 (Evaluation 1)	3.82	.97	1	2	263
Question 2 (Evaluation 1)	4.17	.87	1	2	263
Question 3 (Evaluation 1)	4.33	.76	2	5	260
Question 4 (Evaluation 1)	4.05	.86	2	5	263
Question 5 (Evaluation 1)	4.14	.96	1	5	263
Question 6 (Evaluation 1)	4.21	.80	2	5	263
Question 7 (Evaluation 1)	3.94	1.02	1	5	263
Question 8 (Evaluation 1)	4.08	.93	2	5	263
Question 9 (Evaluation 1)	4.07	.93	1	5	263
Question 10 (Evaluation 1)	3.98	.86	2	5	259
Question 11 (Evaluation 1)	3.95	.85	2	5	259
Question 12 (Evaluation 1)	3.99	.87	2	5	263
Question 13 (Evaluation 1)	4.11	1.06	1	5	262
Question 14 (Evaluation 1)	4.21	.94	1	5	259
Question 15 (Evaluation 1)	3.66	1.24	1	5	259

Table G-13. Descriptive Statistics -- Performance Evaluation 2					
Variable	Mean	Std Dev	Minimum	Maximum	Valid N
Question 1 (Evaluation 2)	3.68	1.05	1	5	155
Question 2 (Evaluation 2)	4.01	.84	1	5	155
Question 3 (Evaluation 2)	4.19	.86	1	5	142
Question 4 (Evaluation 2)	3.99	.93	1	5	155
Question 5 (Evaluation 2)	4.18	.90	1	5	155
Question 6 (Evaluation 2)	4.19	.92	1	5	155
Question 7 (Evaluation 2)	3.89	1.08	1	5	155
Question 8 (Evaluation 2)	4.12	1.02	1	5	155
Question 9 (Evaluation 2)	3.95	1.01	1	5	155
Question 10 (Evaluation 2)	3.86	.94	1	5	155
Question 11 (Evaluation 2)	3.83	.97	1	5	155
Question 12 (Evaluation 2)	3.82	.95	1	5	155
Question 13 (Evaluation 2)	3.93	1.12	1	5	155
Question 14 (Evaluation 2)	4.05	.97	1	5	155
Question 15 (Evaluation 2)	3.49	1.24	1	5	152

Appendix H: Frequencies

Table H-1. Response Frequencies – Adult Inventory of Procrastination							
Label	**Value**	**Frequency**	**Percent**	**Label**	**Value**	**Frequency**	**Percent**
Item 1 (Survey Question 10)	**1**	**198**	**75.0**	Item 9 (Survey Question 60)	**1**	**138**	**52.3**
	2	56	21.2		2	86	32.6
	3	3	1.1		3	34	12.9
	4	2	.8		4	5	1.9
	5	4	1.5				
Item 2 (Survey Question 12)	**1**	**142**	**53.8**	Item 10 (Survey Question 65)	1	23	8.7
	2	94	35.6		2	69	26.1
	3	15	5.7		**3**	**87**	**33.0**
	4	8	3.0		4	58	22.0
	5	4	1.5		5	26	9.8
Item 3 (Survey Question 18)	1	74	28.0	Item 11 (Survey Question 70)	1	42	15.9
	2	**129**	**48.9**		**2**	**117**	**44.3**
	3	40	15.2		3	79	29.9
	4	13	4.9		4	19	7.2
	5	7	2.7		5	6	2.3
Item 4 (Survey Question 22)	1	25	9.5	Item 12 (Survey Question 73)	1	68	25.8
	2	**94**	**35.6**		**2**	**122**	**46.2**
	3	75	28.4		3	50	18.9
	4	56	21.2		4	20	7.6
	5	13	4.9		5	3	1.1
Item 5 (Survey Question 25)	1	75	28.4	Item 13 (Survey Question 87)	1	61	23.1
	2	86	32.6		**2**	**156**	**59.1**
	3	**92**	**34.8**		3	28	10.6
	4	7	2.7		4	13	4.9
	5	3	1.1		5	5	1.9
Item 6 (Survey Question 30)	1	27	10.2	Item 14 (Survey Question 90)	1	50	18.9
	2	66	25.0		**2**	**108**	**40.9**
	3	58	22.0		3	75	28.4
	4	**68**	**25.8**		4	24	9.1
	5	44	16.7		5	6	2.3
Item 7 (Survey Question 35)	1	40	15.2	Item 15 (Survey Question 93)	1	75	28.4
	2	**129**	**48.9**		**2**	**138**	**52.3**
	3	58	22.0		3	36	13.6
	4	31	11.7		4	9	3.4
	5	5	1.9		5	5	1.9
Item 8 (Survey Question 47)	1	45	17.0				
	2	**84**	**31.8**				
	3	71	26.9				
	4	52	19.7				
	5	11	4.2				

Table H-2. Response Frequencies – Goal Orientation Scale							
Label	**Value**	**Frequency**	**Percent**	**Label**	**Value**	**Frequency**	**Percent**
Item 1 (Survey Question 13)	1	7	2.7	Item 9 (Survey Question 85)	1	2	.8
	2	16	6.1		2	12	4.5
	3	39	14.8		3	32	12.1
	4	98	37.1		**4**	**146**	**55.3**
	5	**103**	**39.0**		5	71	26.9
Item 2 (Survey Question 19)	1	26	9.8	Item 10 (Survey Question 88)	1	2	.8
	2	**93**	**35.2**		2	17	6.4
	3	57	21.6		3	83	31.4
	4	51	19.3		**4**	**113**	**42.8**
	5	36	13.6		5	48	18.2
Item 3 (Survey Question 23)	1	1	.4	Item 11 (Survey Question 92)	1	16	6.1
	2	11	4.2		2	77	29.2
	3	28	10.6		**3**	**82**	**31.1**
	4	**127**	**48.1**		4	68	25.8
	5	96	36.4		5	20	7.6
Item 4 (Survey Question 42)	1	5	1.9	Item 12 (Survey Question 94)	1	5	1.9
	2	23	8.7		2	11	4.2
	3	74	28.0		3	74	28.0
	4	**119**	**45.1**		**4**	**129**	**48.9**
	5	42	15.9		5	44	16.7
Item 5 (Survey Question 46)	1	3	1.1	Item 13 (Survey Question 98)	1	11	4.2
	2	9	3.4		2	81	30.7
	3	59	22.3		**3**	**113**	**42.8**
	4	**118**	**44.7**		4	42	15.9
	5	74	28.0		5	16	6.1
Item 6 (Survey Question 67)	1	4	1.5	Item 14 (Survey Question 99)	1	3	1.1
	2	42	15.9		2	23	8.7
	3	**90**	**34.1**		3	57	21.6
	4	85	32.2		**4**	**145**	**54.9**
	5	42	15.9		5	35	13.3
Item 7 (Survey Question 79)	1	6	2.3	Item 15 (Survey Question 102)	1	5	1.9
	2	28	10.6		2	26	9.8
	3	82	31.1		3	95	36.0
	4	**93**	**35.2**		**4**	**98**	**37.1**
	5	54	20.5		5	39	14.8
Item 8 (Survey Question 83)	1	6	2.3				
	2	51	19.3				
	3	71	26.9				
	4	**108**	**40.9**				
	5	27	10.2				

Table H-3. Response Frequencies – Job Diagnostic Survey (Autonomy)

Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Questions 41)	1	6	2.3	Item 3 (Survey Question 112)	1	22	8.3
	2	25	9.5		2	16	6.1
	3	58	22.0		**3**	**131**	**49.6**
	4	**110**	**41.7**		4	53	20.1
	5	64	24.2		5	41	15.5
Item 3 (Survey Question 95)	1	22	8.3				
	2	40	15.2				
	3	61	23.1				
	4	**103**	**39.0**				
	5	37	14.0				

Table H-4. Response Frequencies – Competence Facet (C1)

Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 11)	1	1	.4	Item 5 (Survey Question 33)	2	7	2.7
	2	4	1.5		3	21	8.0
	3	18	6.8		**4**	**139**	**52.7**
	4	102	38.6		5	96	36.4
	5	**138**	**52.3**				
Item 2 (Survey Question 15)	1	3	1.1	Item 6 (Survey Question 56)	1	7	2.7
	2	2	.8		2	46	17.4
	3	21	8.0		3	86	32.6
	4	**140**	**53.0**		**4**	**104**	**39.4**
	5	97	36.7		5	20	7.6
Item 3 (Survey Question 29)	1	12	4.5	Item 7 (Survey Question 82)	1	4	1.5
	2	36	13.6		2	10	3.8
	3	74	28.0		3	87	33.0
	4	**85**	**32.2**		**4**	**129**	**48.9**
	5	56	21.2		5	33	12.5
Item 4 (Survey Question 32)	1	6	2.3	Item 8 (Survey Question 84)	1	1	.4
	2	16	6.1		2	1	.4
	3	38	14.4		3	29	11.0
	4	**107**	**40.5**		**4**	**147**	**55.7**
	5	96	36.4		5	85	32.2

Table H-5. Response Frequencies – Order Facet (C2)							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 17)	1	15	5.7	Item 5 (Survey Question 49)	1	15	5.7
	2	23	8.7		**2**	**83**	**31.4**
	3	82	31.1		3	72	27.3
	4	**89**	**33.7**		4	62	23.5
	5	54	20.5		5	31	11.7
Item 2 (Survey Question 36)	1	19	7.2	Item 6 (Survey Question 51)	1	6	2.3
	2	85	32.2		2	33	12.5
	3	**93**	**35.2**		**3**	**101**	**38.3**
	4	51	19.3		4	94	35.6
	5	15	5.7		5	29	11.0
Item 3 (Survey Question 39)	1	4	1.5	Item 7 (Survey Question 71)	1	2	.8
	2	15	5.7		2	16	6.1
	3	45	17.0		3	56	21.2
	4	**115**	**43.6**		**4**	**127**	**48.1**
	5	84	31.8		5	62	23.5
Item 4 (Survey Question 45)	1	3	1.1	Item 8 (Survey Question 74)	1	6	2.3
	2	14	5.3		2	26	9.8
	3	48	18.2		3	49	18.6
	4	**127**	**48.1**		**4**	**139**	**52.7**
	5	71	26.9		5	43	16.3

Table H-6. Response Frequencies – Dutifulness Facet (C3)							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 14)	1	3	1.1	Item 5 (Survey Question 54)	2	8	3.0
	2	25	9.5		3	22	8.3
	3	34	12.9		**4**	**127**	**48.1**
	4	94	35.6		5	106	40.2
	5	**107**	**40.5**				
Item 2 (Survey Question 28)	1	9	3.4	Item 6 (Survey Question 55)	1	2	.8
	2	38	14.4		2	5	1.9
	3	76	28.8		3	15	5.7
	4	59	22.3		**4**	**127**	**48.1**
	5	**81**	**30.7**		5	114	43.2
Item 3 (Survey Question 50)	1	1	.4	Item 7 (Survey Question 57)	1	5	1.9
	3	31	11.7		2	19	7.2
	4	**153**	**58.0**		3	26	9.8
	5	78	29.5		4	104	39.4
					5	**109**	**41.3**
Item 4 (Survey Question 53)	1	4	1.5	Item 8 (Survey Question 59)	1	2	.8
	2	13	4.9		2	6	2.3
	3	51	19.3		3	72	27.3
	4	**100**	**37.9**		**4**	**119**	**45.1**
	5	95	36.0		5	64	24.2

Table H-7. Response Frequencies – Achievement-Striving Facet (C4)

Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 16)	1	11	4.2	Item 5 (Survey Question 62)	1	4	1.5
	2	31	11.7		2	22	8.3
	3	64	24.2		3	97	36.7
	4	**93**	**35.2**		**4**	**108**	**40.9**
	5	64	24.2		5	32	12.1
Item 2 (Survey Question 27)	1	1	.4	Item 6 (Survey Question 64)	1	3	1.1
	2	7	2.7		2	6	2.3
	3	27	10.2		3	41	15.5
	4	**134**	**50.8**		**4**	**131**	**49.6**
	5	94	35.6		5	82	31.1
Item 3 (Survey Question 40)	1	2	.8	Item 7 (Survey Question 81)	1	6	2.3
	2	5	1.9		2	20	7.6
	3	36	13.6		3	100	37.9
	4	**120**	**45.5**		**4**	**103**	**39.0**
	5	100	37.9		5	34	12.9
Item 4 (Survey Question 58)	1	23	8.7	Item 8 (Survey Question 96)	1	15	5.7
	2	58	22.0		2	50	18.9
	3	**87**	**33.0**		**3**	**96**	**36.4**
	4	61	23.1		4	79	29.9
	5	34	12.9		5	23	8.7

Table H-8. Response Frequencies – Self-Discipline Facet (C5)

Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 38)	1	1	.4	Item 5 (Survey Question 75)	1	5	1.9
	2	3	1.1		2	4	1.5
	3	32	12.1		3	33	12.5
	4	**146**	**55.3**		**4**	**146**	**55.3**
	5	81	30.7		5	75	28.4
Item 2 (Survey Question 44)	1	4	1.5	Item 6 (Survey Question 76)	1	5	1.9
	2	9	3.4		2	12	4.5
	3	40	15.2		3	52	19.7
	4	**140**	**53.0**		**4**	**139**	**52.7**
	5	70	26.5		5	55	20.8
Item 3 (Survey Question 69)	1	1	.4	Item 7 (Survey Question 86)	1	3	1.1
	2	11	4.2		2	14	5.3
	3	48	18.2		3	54	20.5
	4	**154**	**58.3**		**4**	**153**	**58.0**
	5	49	18.6		5	39	14.8
Item 4 (Survey Question 72)	1	2	.8	Item 8 (Survey Question 106)	1	3	1.1
	2	25	9.5		2	8	3.0
	3	73	27.7		3	58	22.0
	4	**121**	**45.8**		**4**	**145**	**54.9**
	5	42	15.9		5	49	18.6

Table H-9. Response Frequencies – Deliberation Facet (C6)							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Item 1 (Survey Question 21)	1	5	1.9	Item 5 (Survey Question 80)	1	4	1.5
	2	24	9.1		2	26	9.8
	3	86	32.6		3	61	23.1
	4	**113**	**42.8**		**4**	**147**	**55.7**
	5	35	13.3		5	25	9.5
Item 2 (Survey Question 26)	1	1	.4	Item 6 (Survey Question 104)	1	1	.4
	2	10	3.8		2	17	6.4
	3	25	9.5		3	61	23.1
	4	**159**	**60.2**		**4**	**136**	**51.5**
	5	68	25.8		5	48	18.2
Item 3 (Survey Question 52)	1	3	1.1	Item 7 (Survey Question 107)	1	3	1.1
	2	38	14.4		2	69	26.1
	3	98	37.1		3	82	31.1
	4	**110**	**41.7**		**4**	**91**	**34.5**
	5	14	5.3		5	18	6.8
Item 4 (Survey Question 77)	1	40	15.2	Item 8 (Survey Question 110)	1	12	4.5
	2	**97**	**36.7**		**2**	**86**	**32.6**
	3	77	29.2		**3**	**86**	**32.6**
	4	36	13.6		4	69	26.1
	5	13	4.9		5	10	3.8

Table H-10. Response Frequencies – Positive Affect (PA)							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Interested	1	16	6.1	Alert	1	20	7.6
	2	30	11.4		2	24	9.1
	3	85	32.2		3	82	31.1
	4	**93**	**35.2**		**4**	**106**	**40.2**
	5	39	14.8		5	31	11.7
Excited	1	44	16.7	Inspired	1	50	18.9
	2	48	18.2		2	42	15.9
	3	**92**	**34.8**		**3**	**89**	**33.7**
	4	60	22.7		4	63	23.9
	5	19	7.2		5	19	7.2
Strong	1	28	10.6	Determined	1	24	9.1
	2	34	12.9		2	16	6.1
	3	**114**	**43.2**		3	81	30.7
	4	61	23.1		**4**	**90**	**34.1**
	5	26	9.8		5	52	19.7
Enthusiastic	1	34	12.9	Attentive	1	23	8.7
	2	40	15.2		2	26	9.8
	3	**91**	**34.5**		3	84	31.8
	4	70	26.5		**4**	**96**	**36.4**
	5	28	10.6		5	34	12.9
Proud	1	32	12.1	Active	1	20	7.6
	2	30	11.4		2	24	9.1
	3	79	29.9		3	85	32.2
	4	69	26.1		4	85	32.2
	5	53	20.1		5	49	18.6

Table H-11. Response Frequencies – Negative Affect (NA)						
Label	**Value**	**Frequency**	**Percent**	**Label**	**Value**	**Frequency**	**Percent**
Distressed	1	35	13.3	Irritable	1	38	14.4
	2	69	26.1		2	61	23.1
	3	**86**	**32.6**		**3**	**83**	**31.4**
	4	48	18.2		4	60	22.7
	5	25	9.5		5	21	8.0
Upset	1	38	14.4	Ashamed	**1**	**176**	**66.7**
	2	**69**	**26.1**		2	40	15.2
	3	67	25.4		3	25	9.5
	4	62	23.5		4	19	7.2
	5	27	10.2		5	3	1.1
Guilty	**1**	**179**	**67.8**	Nervous	**1**	**90**	**34.1**
	2	45	17.0		2	64	24.2
	3	32	12.1		3	59	22.3
	4	6	2.3		4	39	14.8
	5	1	.4		5	11	4.2
Scared	**1**	**122**	**46.2**	Jittery	**1**	**108**	**40.9**
	2	66	25.0		2	58	22.0
	3	50	18.9		3	58	22.0
	4	20	7.6		4	30	11.4
	5	5	1.9		5	9	3.4
Hostile	**1**	**103**	**39.0**	Afraid	**1**	**135**	**51.1**
	2	53	20.1		2	56	21.2
	3	56	21.2		3	48	18.2
	4	33	12.5		4	16	6.1
	5	18	6.8		5	8	3.0

Table H-12. Response Frequencies – Performance Evaluation (1)							
Label	Value	Frequency	Percent	Label	Value	Frequency	Percent
Question 1 (Evaluation 1)	1	3	1.1	Question 10 (Evaluation 1)	2	11	4.2
	2	21	8.0		3	65	24.6
	3	71	26.9		4	102	38.6
	4	93	35.2		5	81	30.7
	5	75	28.4				
Question 2 (Evaluation 1)	1	1	.4	Question 11 (Evaluation 1)	2	12	4.5
	2	10	3.8		3	63	23.9
	3	44	16.7		4	110	41.7
	4	97	36.7		5	74	28.0
	5	111	42.0				
Question 3 (Evaluation 1)	2	4	1.5	Question 12 (Evaluation 1)	2	10	3.8
	3	34	12.9		3	71	26.9
	4	95	36.0		4	94	35.6
	5	127	48.1		5	88	33.3
Question 4 (Evaluation 1)	2	14	5.3	Question 13 (Evaluation 1)	1	9	3.4
	3	49	18.6		2	13	4.9
	4	109	41.3		3	41	15.5
	5	91	34.5		4	77	29.2
					5	122	46.2
Question 5 (Evaluation 1)	1	2	.8	Question 14 (Evaluation 1)	1	5	1.9
	2	15	5.7		2	12	4.5
	3	48	18.2		3	27	10.2
	4	77	29.2		4	94	35.6
	5	121	45.8		5	121	45.8
Question 6 (Evaluation 1)	2	5	1.9	Question 15 (Evaluation 1)	1	25	9.5
	3	47	17.8		2	15	5.7
	4	99	37.5		3	62	23.5
	5	112	42.4		4	77	29.2
					5	80	30.3
Question 7 (Evaluation 1)	1	4	1.5	Question 16 (Evaluation 1)	1	2	.8
	2	23	8.7		2	9	3.4
	3	52	19.7		3	46	17.4
	4	89	33.7		4	90	34.1
	5	95	36.0		5	116	43.9
Question 8 (Evaluation 1)	2	14	5.3	Question 17 (Evaluation 1)	2	4	1.5
	3	62	23.5		3	37	14.0
	4	75	28.4		4	118	44.7
	5	112	42.4		5	104	39.4
Question 9 (Evaluation 1)	1	3	1.1	Question 18 (Evaluation 1)	1	1	.4
	2	12	4.5		2	2	.8
	3	51	19.3		3	68	25.8
	4	94	35.6		4	104	39.4
	5	103	39.0		5	88	33.3

Table H-13. Response Frequencies – Performance Evaluation (2)							
Label	**Value**	**Frequency**	**Percent**	**Label**	**Value**	**Frequency**	**Percent**
Question 1 (Evaluation 2)	1	4	1.5	Question 10 (Evaluation 2)	1	3	1.1
	2	18	6.8		2	7	2.7
	3	39	14.8		3	42	15.9
	4	**56**	**21.2**		**4**	**60**	**22.7**
	5	38	14.4		5	43	16.3
Question 2 (Evaluation 2)	1	1	.4	Question 11 (Evaluation 2)	1	3	1.1
	2	3	1.1		2	7	2.7
	3	39	14.8		3	49	18.6
	4	**63**	**23.9**		**4**	**50**	**18.9**
	5	49	18.6		5	46	17.4
Question 3 (Evaluation 2)	1	1	.4	Question 12 (Evaluation 2)	1	3	1.1
	2	3	1.1		2	4	1.5
	3	26	9.8		**3**	**56**	**21.2**
	4	50	18.9		4	47	17.8
	5	**62**	**23.5**		5	45	17.0
Question 4 (Evaluation 2)	1	1	.4	Question 13 (Evaluation 2)	1	6	2.3
	2	9	3.4		2	11	4.2
	3	34	12.9		3	33	12.5
	4	**57**	**21.6**		4	43	16.3
	5	54	20.5		**5**	**62**	**23.5**
Question 5 (Evaluation 2)	1	2	.8	Question 14 (Evaluation 2)	1	3	1.1
	2	5	1.9		2	7	2.7
	3	24	9.1		3	29	11.0
	4	56	21.2		4	56	21.2
	5	**68**	**25.8**		**5**	**60**	**22.7**
Question 6 (Evaluation 2)	1	2	.8	Question 15 (Evaluation 2)	1	14	5.3
	2	6	2.3		2	16	6.1
	3	23	8.7		**3**	**44**	**16.7**
	4	53	20.1		4	38	14.4
	5	**71**	**26.9**		5	40	15.2
Question 7 (Evaluation 2)	1	5	1.9	Question 16 (Evaluation 2)	1	4	1.5
	2	14	5.3		2	7	2.7
	3	27	10.2		3	26	9.8
	4	**56**	**21.2**		4	57	21.6
	5	53	20.1		**5**	**61**	**23.1**
Question 8 (Evaluation 2)	1	2	.8	Question 17 (Evaluation 2)	2	6	2.3
	2	10	3.8		3	19	7.2
	3	30	11.4		4	58	22.0
	4	38	14.4		**5**	**72**	**27.3** ·
	5	**75**	**28.4**				
Question 9 (Evaluation 2)	1	3	1.1	Question 18 (Evaluation 2)	1	1	.4
	2	11	4.2		2	7	2.7
	3	32	12.1		3	51	19.3
	4	54	20.5		**4**	**75**	**28.4**
	5	**55**	**20.8**		5	21	8.0

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Vita

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In 1992, he was assigned to King Salmon Airport, Alaska, where he served a one-year remote tour as the Chief of Maintenance, responsible for the 24-hour North American Aerospace Defense Command alert mission. While at King Salmon, he was responsible for the support of alert F-15C aircraft, including the successful intercept of two Commonwealth of Independent States TU-95 Bear bombers and an IL-20 Coot. After the remote tour, he was assigned to Headquarters 19th Air Force and Headquarters Air Education and Training Command, Randolph AFB, Texas, as the Command's Maintenance Contracts Supervisor. As Maintenance Contracts Supervisor, he wrote statements of work and was a member of source selection evaluation teams for contracts valued at over $500 million, supporting the Command's 1,100 trainer aircraft.

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13. ABSTRACT (Maximum 200 Words)

It is generally accepted that everyone puts off or delays doing tasks to some extent; however, little is known about how different styles affect job performance. Individual differences in goal orientation (tendency to set goals and objectives), conscientiousness (thoroughness and carefulness in performing a task), autonomy (freedom, independence, and discretion in scheduling work), and temperament (manner of thinking, behaving, and reacting) may have an influence on how efficiently and effectively people prioritize their tasks (or avoid tasks), and thus have an effect on job performance.

This study examined the possible importance of procrastination in the workplace, and its effect on job performance. A measure of work-related procrastination was designed and a model was developed that proposed a linkage between individual differences and job performance. Two hypotheses were developed to test the implications of the model. The first hypothesis was supported – goal orientation, conscientiousness, autonomy, and temperament were significant predictors of work procrastination (task-avoidant behavior) in this study. The second hypothesis was not supported – results of analyses showed that procrastination was not a predictor of job performance in this study.

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